

ITEM: 4F744 - Lubricant Gear

LOWE'S 12.3.298 12.3
08/13/08

PICK REQ: 1080158799

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A3679

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A3679

REACTIVITY: 0

Associated Grainger Item: 4F744 - Lubricant Gear

511303-00 MOBIL 1 SYNTHETIC GEAR LUBRICANT

MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL 1 SYNTHETIC GEAR LUBRICANT

SUPPLIER:
EXXONMOBIL OIL CORPORATION
3225 GALLOWAYS RD.
FAIRFAX, VA 22037

24 - HOUR HEALTH AND SAFETY EMERGENCY (CALL COLLECT): 609-737-4411
24 - HOUR TRANSPORTATION EMERGENCY
(PRIMARY) CHEMTREC: 800-424-9300
(SECONDARY): 281-834-3296

PRODUCT AND TECHNICAL INFORMATION:
800-662-4525
703-846-6693

MSDS FAX ON DEMAND: 613-228-1467
OTHER MSDS INFORMATION: 856-224-4644

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

SUBSTANCE NAME APPROX. WT%

ALKARYLAMINE 1-5

SEE SECTION 8 FOR EXPOSURE LIMITS (IF APPLICABLE).

3. HAZARDS IDENTIFICATION

UNDER NORMAL CONDITIONS OF USE, THIS PRODUCT IS NOT CONSIDERED HAZARDOUS ACCORDING TO REGULATORY GUIDELINES (SEE SECTION 15).

EMERGENCY OVERVIEW: LIGHT AMBER LIQUID.

DOT ERG NO.: NA

POTENTIAL HEALTH EFFECTS:
UNDER NORMAL CONDITIONS OF INTENDED USE, THIS PRODUCT DOES NOT POSE A RISK TO HEALTH. EXCESSIVE EXPOSURE MAY RESULT IN EYE, SKIN OR RESPIRATORY IRRITATION.
FOR FURTHER HEALTH EFFECTS/TOXICOLOGICAL DATA, SEE SECTION 11.

4. FIRST AID MEASURES

EYE CONTACT:
FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, CALL A PHYSICIAN.

SKIN CONTACT:
WASH CONTACT AREAS WITH SOAP AND WATER. REMOVE AND CLEAN OIL SOAKED CLOTHING DAILY AND WASH AFFECTED AREA. (SEE SECTION 16 - INJECTION INJURY)

INHALATION:
NOT EXPECTED TO BE A PROBLEM. HOWEVER, IF RESPIRATORY IRRITATION, DIZZINESS, NAUSEA, OR UNCONSCIOUSNESS OCCURS DUE TO EXCESSIVE VAPOR OR MIST EXPOSURE, SEEK IMMEDIATE MEDICAL ASSISTANCE. IF BREATHING HAS STOPPED, ASSIST VENTILATION WITH A MECHANICAL DEVICE OR MOUTH-TO-MOUTH RESUSCITATION.

INGESTION:
NOT EXPECTED TO BE A PROBLEM. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS. DO NOT INDUCE VOMITING.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: CARBON DIOXIDE, FOAM, DRY CHEMICAL AND WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:
WATER OR FOAM MAY CAUSE FROTHING. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE. PREVENT RUNOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS, SEWERS, OR DRINKING WATER SUPPLY.

SPECIAL PROTECTIVE EQUIPMENT:
FOR FIRES IN ENCLOSED AREAS, FIRE FIGHTERS MUST USE SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE.

COMBUSTION PRODUCTS:
FUMES, SMOKE, CARBON MONOXIDE, SULFUR OXIDES, ALDEHYDES AND OTHER DECOMPOSITION PRODUCTS, IN THE CASE OF INCOMPLETE COMBUSTION.

FLASH POINT C (F): >149 (300) (ASTM D-93).

FLAMMABLE LIMITS (APPROX. % VOL. IN AIR) -
LEL: 0.9%
UEL: 7.0%

NFPA HAZARD ID:
HEALTH: 0
FLAMMABILITY: 1

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES:
REPORT SPILLS/RELEASES AS REQUIRED TO APPROPRIATE AUTHORITIES. U.S. COAST GUARD AND EPA REGULATIONS REQUIRE IMMEDIATE REPORTING OF SPILLS/RELEASES THAT COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. REPORT SPILL/RELEASE TO COAST GUARD NATIONAL RESPONSE CENTER TOLL FREE NUMBER (800) 424-8802. IN CASE OF ACCIDENT OR ROAD SPILL NOTIFY CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL:
SHUT OFF SOURCE TAKING NORMAL SAFETY PRECAUTIONS. TAKE MEASURES TO MINIMIZE THE EFFECTS ON GROUND WATER. RECOVER BY PUMPING OR CONTAIN SPILLED MATERIAL WITH SAND OR OTHER SUITABLE ABSORBENT AND REMOVE MECHANICALLY INTO CONTAINERS. IF NECESSARY, DISPOSE OF ADSORBED RESIDUES AS DIRECTED IN SECTION 13.

WATER SPILL:
CONFINE THE SPILL IMMEDIATELY WITH BOOMS. WARN OTHER SHIPS IN THE VICINITY. NOTIFY PORT AND OTHER RELEVANT AUTHORITIES. REMOVE FROM THE SURFACE BY SKIMMING OR WITH SUITABLE ABSORBENTS. IF PERMITTED BY REGULATORY AUTHORITIES THE USE OF SUITABLE DISPERSANTS SHOULD BE CONSIDERED WHERE RECOMMENDED IN LOCAL OIL SPILL PROCEDURES.

ENVIRONMENTAL PRECAUTIONS:
PREVENT MATERIAL FROM ENTERING SEWERS, WATER SOURCES OR LOW LYING AREAS; ADVISE THE RELEVANT AUTHORITIES IF IT HAS, OR IF IT CONTAMINATES SOIL/VEGETATION.

PERSONAL PRECAUTIONS: SEE SECTION 8

7. HANDLING AND STORAGE

HANDLING:
NO SPECIAL PRECAUTIONS ARE NECESSARY BEYOND NORMAL GOOD HYGIENE PRACTICES. SEE SECTION 8 FOR ADDITIONAL PERSONAL PROTECTION ADVICE WHEN HANDLING THIS PRODUCT.

STORAGE:
KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS. STORE AWAY FROM STRONG OXIDIZING AGENTS AND COMBUSTIBLE MATERIALS. DO NOT STORE NEAR HEAT, SPARKS, FLAME OR STRONG OXIDANTS.

SPECIAL PRECAUTIONS:
PREVENT SMALL SPILLS AND LEAKAGES TO AVOID SLIP HAZARD.

EMPTY CONTAINER WARNING:
EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. DO NOT ATTEMPT TO REFILL OR CLEAN CONTAINER SINCE RESIDUE IS DIFFICULT TO REMOVE. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY RETURNED TO A DRUM RECONDITIONER. ALL CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:
WHEN MISTS/AEROSOLS CAN OCCUR, THE FOLLOWING ARE RECOMMENDED:
5 MG/M3 (AS OIL MIST) - ACGIH THRESHOLD LIMIT VALUE (TLV)
10 MG/M3 (AS OIL MIST) - ACGIH SHORT TERM EXPOSURE LIMIT (STEL)
5 MG/M3 (AS OIL MIST) - OSHA PERMISSIBLE EXPOSURE LIMIT (PEL)

VENTILATION:
IF MISTS ARE GENERATED, USE ADEQUATE VENTILATION, LOCAL EXHAUST OR ENCLOSURES TO CONTROL BELOW EXPOSURE LIMITS.

RESPIRATORY PROTECTION:
IF MISTS ARE GENERATED, AND/OR WHEN VENTILATION IS NOT ADEQUATE, WEAR APPROVED RESPIRATOR.

EYE PROTECTION:
IF EYE CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE SHIELDS OR CHEMICAL TYPE GOGGLES SHOULD BE WORN.

SKIN PROTECTION:
NOT NORMALLY REQUIRED. WHEN SPLASHING OR LIQUID CONTACT CAN OCCUR FREQUENTLY, WEAR OIL RESISTANT GLOVES AND/OR OTHER PROTECTIVE CLOTHING. GOOD PERSONAL HYGIENE PRACTICES SHOULD ALWAYS BE FOLLOWED.

9. PHYSICAL AND CHEMICAL PROPERTIES

TYPICAL PHYSICAL PROPERTIES ARE GIVEN BELOW. CONSULT PRODUCT DATA SHEET FOR SPECIFIC DETAILS.

APPEARANCE: LIQUID

COLOR: LIGHT AMBER

ODOR: MILD

ODOR THRESHOLD-PPM: NE

pH: NA

BOILING POINT C (F): >316 (600)

MELTING POINT C (F): NA

FLASH POINT C (F): >149 (300) (ASTM D-93)

USEPA SF



1337362

FLAMMABILITY (SOLIDS): NE
AUTO FLAMMABILITY C (F): NA
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-MM HG 20 C: <0.1
VAPOR DENSITY: >2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.86-1
SOLUBILITY IN WATER: NEGLIGIBLE
PARTITION COEFFICIENT: >3.5
VISCOSITY AT 40 C, CST: 99.0
VISCOSITY AT 100 C, CST: 14.7
POUR POINT C (F): >-40 (-40)
FREEZING POINT C (F): NE
VOLATILE ORGANIC COMPOUND: NE

DMSO EXTRACT, IP-346 (WT.%): <3, FOR MINERAL OIL ONLY

NA=NOT APPLICABLE
NE=NOT ESTABLISHED
D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): STABLE.
CONDITIONS TO AVOID: EXTREME HEAT AND HIGH ENERGY SOURCES OF IGNITION.

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS:
PRODUCT DOES NOT DECOMPOSE AT AMBIENT TEMPERATURES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL DATA

ACUTE TOXICOLOGY:

ORAL TOXICITY (RATS):
PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG).
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

DERMAL TOXICITY (RABBITS):
PRACTICALLY NON-TOXIC (LD50: GREATER THAN 2000 MG/KG).
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

INHALATION TOXICITY (RATS):
PRACTICALLY NON-TOXIC (LC50: GREATER THAN 5 MG/L).
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

EYE IRRITATION (RABBITS):
PRACTICALLY NON-IRRITATING. (DRAIZE SCORE: GREATER THAN 6 BUT 15 OR LESS).
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

SKIN IRRITATION (RABBITS):
PRACTICALLY NON-IRRITATING. (PRIMARY IRRITATION INDEX: GREATER THAN 0.5 BUT LESS THAN 3).
BASED ON TESTING OF SIMILAR PRODUCTS AND/OR THE COMPONENTS.

OTHER ACUTE TOXICITY DATA:
ALTHOUGH AN ACUTE INHALATION STUDY WAS NOT PERFORMED WITH THIS PRODUCT, A VARIETY OF MINERAL AND SYNTHETIC OILS, SUCH AS THOSE IN THIS PRODUCT, HAVE BEEN TESTED. THESE SAMPLES HAD VIRTUALLY NO EFFECT OTHER THAN A NONSPECIFIC INFLAMMATORY RESPONSE IN THE LUNG TO THE AEROSOLIZED MINERAL OIL. THE PRESENCE OF ADDITIVES IN OTHER TESTED FORMULATIONS (IN APPROXIMATELY THE SAME AMOUNTS AS IN THE PRESENT FORMULATION) DID NOT ALTER THE OBSERVED EFFECTS.

SUBCHRONIC TOXICOLOGY (SUMMARY):
NO SIGNIFICANT ADVERSE EFFECTS WERE FOUND IN STUDIES USING REPEATED DERMAL APPLICATIONS OF SIMILAR FORMULATIONS TO THE SKIN OF LABORATORY ANIMALS FOR 13 WEEKS AT DOSES SIGNIFICANTLY HIGHER THAN THOSE EXPECTED DURING NORMAL INDUSTRIAL EXPOSURE. THE ANIMALS WERE EVALUATED EXTENSIVELY FOR EFFECTS OF EXPOSURE (HEMATOLOGY, SERUM CHEMISTRY, URINALYSIS, ORGAN WEIGHTS, MICROSCOPIC EXAMINATION OF TISSUES ETC.).

REPRODUCTIVE TOXICOLOGY (SUMMARY):
NO TERATOGENIC EFFECTS WOULD BE EXPECTED FROM DERMAL EXPOSURE, BASED ON LABORATORY DEVELOPMENTAL TOXICITY STUDIES OF MAJOR COMPONENTS IN THIS FORMULATION AND/OR MATERIALS OF SIMILAR COMPOSITION.

CHRONIC TOXICOLOGY (SUMMARY):
REPEATED AND/OR PROLONGED EXPOSURE MAY CAUSE IRRITATION TO THE SKIN, EYES OR RESPIRATORY TRACT. OVEREXPOSURE TO OIL MIST MAY RESULT IN OIL DROPLET DEPOSITION AND/OR GRANULOMA FORMATION.
FOR MINERAL BASE OILS: BASE OILS IN THIS PRODUCT ARE SEVERELY SOLVENT REFINED AND/OR SEVERELY HYDROTREATED. CHRONIC MOUSE SKIN PAINTING STUDIES OF SEVERELY TREATED OILS SHOWED NO EVIDENCE OF CARCINOGENIC EFFECTS. THESE RESULTS ARE CONFIRMED ON A CONTINUING BASIS USING VARIOUS SCREENING METHODS SUCH AS MODIFIED AMES TEST, IP-346, AND/OR OTHER ANALYTICAL METHODS.
FOR SYNTHETIC BASE OILS: THE BASE OILS IN THIS PRODUCT HAVE BEEN TESTED IN THE AMES ASSAY AND OTHER TESTS OF MUTAGENICITY WITH NEGATIVE RESULTS. THESE BASE OILS ARE NOT EXPECTED TO BE CARCINOGENIC WITH CHRONIC DERMAL EXPOSURES

SENSITIZATION (SUMMARY):
NOT EXPECTED TO BE SENSITIZING BASED ON TESTS OF THIS PRODUCT, COMPONENTS, OR SIMILAR PRODUCTS.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

THIS PRODUCT IS EXPECTED TO BE INHERENTLY BIODEGRADABLE. BIOACCUMULATION IS UNLIKELY DUE TO THE VERY LOW WATER SOLUBILITY OF THIS PRODUCT, THEREFORE BIOAVAILABILITY TO AQUATIC ORGANISMS IS MINIMAL. AVAILABLE ECOTOXICITY DATA (LL50 >1000 MG/L) INDICATES THAT ADVERSE EFFECTS TO AQUATIC ORGANISMS ARE NOT EXPECTED FROM THIS PRODUCT. WHEN RELEASED INTO THE ENVIRONMENT, ADSORPTION TO SEDIMENT AND SOIL WILL BE THE PREDOMINANT BEHAVIOR.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:
PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED, CONTROLLED BURNER FOR FUEL VALUE. SUCH BURNING MAY BE LIMITED PURSUANT TO THE RESOURCE CONSERVATION AND RECOVERY ACT. IN ADDITION, THE PRODUCT IS SUITABLE FOR PROCESSING BY AN APPROVED RECYCLING FACILITY OR CAN BE DISPOSED OF AT AN APPROPRIATE GOVERNMENT WASTE DISPOSAL FACILITY. USE OF THESE METHODS IS SUBJECT TO USER COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS AND CONSIDERATION OF PRODUCT CHARACTERISTICS AT TIME OF DISPOSAL.

RCRA INFORMATION:
THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D). NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED HAZARDOUS WASTES. IT DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY, OR REACTIVITY. THE UNUSED PRODUCT IS NOT FORMULATED WITH SUBSTANCES COVERED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

STATIC ACCUMULATOR (50 PICOSIEMENS OR LESS): YES

15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD:
WHEN USED FOR ITS INTENDED PURPOSES, THIS PRODUCT IS NOT CLASSIFIED AS HAZARDOUS IN ACCORDANCE WITH OSHA 29 CFR 1910.1200.

EU LABELING:
PRODUCT IS NOT DANGEROUS AS DEFINED BY THE EUROPEAN UNION DANGEROUS SUBSTANCES/PREPARATIONS DIRECTIVES. EU LABELING NOT REQUIRED.

GOVERNMENTAL INVENTORY STATUS:
ALL COMPONENTS COMPLY WITH TSCA, EINECS/ELINCS, METI, AND DSL.

U.S. SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III:
THIS PRODUCT CONTAINS NO "EXTREMELY HAZARDOUS SUBSTANCES".

SARA-(311/312) REPORTABLE HAZARD CATEGORIES:-NONE-

THIS PRODUCT CONTAINS NO CHEMICALS SUBJECT TO THE SUPPLIER NOTIFICATION REQUIREMENTS OF SARA (313) TOXIC RELEASE PROGRAM.
THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

| CHEMICAL NAME | CAS NUMBER | LIST CITATIONS |
|---------------|------------|----------------|
|---------------|------------|----------------|

NO REPORTABLE INGREDIENTS

REGULATORY LISTS SEARCHED:

1=ACGIH ALL
2=ACGIH A1
3=ACGIH A2
4=NTP CARC
5=NTP SUS
6=IARC 1
7=IARC 2A
8=IARC 2B
9=OSHA CARC
10=OSHA Z
11=TSCA 4
12=TSCA 5A2
13=TSCA 5E
14=TSCA 6
15=TSCA 12B
16=CA P65 CARC
17=CA P65 REPRO
18=CA RTK
19=FL RTK
20=IL RTK
21=LA RTK
22=MI 293
23=MN RTK
24=NJ RTK
25=PA RTK
26=RI RTK

CODE KEY:
CARC=CARCINOGEN
SUS=SUSPECTED CARCINOGEN
REPRO=REPRODUCTIVE

16. OTHER INFORMATION

USE: GEAR OIL

NOTE:
PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBs.
HEALTH STUDIES HAVE SHOWN THAT MANY HYDROCARBONS POSE POTENTIAL HUMAN HEALTH RISKS WHICH MAY VARY FROM PERSON TO PERSON. INFORMATION PROVIDED ON THIS MSDS REFLECTS INTENDED USE. THIS PRODUCT SHOULD NOT BE USED FOR OTHER APPLICATIONS. IN ANY CASE, THE FOLLOWING ADVICE SHOULD BE CONSIDERED:

INJECTION INJURY WARNING:
IF PRODUCT IS INJECTED INTO OR UNDER THE SKIN, OR INTO ANY PART OF THE BODY, REGARDLESS OF THE APPEARANCE OF THE WOUND OR ITS SIZE, THE INDIVIDUAL SHOULD BE EVALUATED IMMEDIATELY BY A PHYSICIAN AS A SURGICAL EMERGENCY.

EVEN THOUGH INITIAL SYMPTOMS FROM HIGH PRESSURE INJECTION MAY BE MINIMAL OR ABSENT, EARLY SURGICAL TREATMENT WITHIN THE FIRST FEW HOURS MAY SIGNIFICANTLY REDUCE THE ULTIMATE EXTENT OF INJURY.

INDUSTRIAL LABEL:

UNDER NORMAL CONDITIONS OF INTENDED USE, THIS PRODUCT DOES NOT POSE A RISK TO HEALTH. EXCESSIVE EXPOSURE MAY RESULT IN EYE, SKIN OR RESPIRATORY IRRITATION. ALWAYS OBSERVE GOOD HYGIENE MEASURES.

FIRST AID:

WASH SKIN WITH SOAP AND WATER. FLUSH EYES WITH WATER. IF OVERCOME BY FUMES OR VAPOR, REMOVE TO FRESH AIR. IF INGESTED DO NOT INDUCE VOMITING. IF SYMPTOMS PERSIST SEEK MEDICAL ASSISTANCE. READ AND UNDERSTAND THE MSDS BEFORE USING THIS PRODUCT.

FOR INTERNAL USE ONLY:

MHC: 1* 1* 1* 1* 1*

MPEFC: A

TRN: 511303-00

CMCS97: 973254

REQ: US - MARKETING

SAFE USE: L

EHS APPROVAL DATE: 17OCT2001

LEGALLY REQUIRED INFORMATION IS GIVEN IN ACCORDANCE WITH APPLICABLE LAW. INFORMATION GIVEN HEREIN IS OFFERED IN GOOD FAITH AS ACCURATE, BUT WITHOUT GUARANTEE. CONDITIONS OF USE AND SUITABILITY OF THE PRODUCT FOR PARTICULAR USES ARE BEYOND OUR CONTROL; ALL RISKS OF USE OF THE PRODUCT ARE THEREFORE ASSUMED BY THE USER AND WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. NOTHING IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS OR AS EXTENDING ANY LICENSE UNDER VALID PATENTS. APPROPRIATE WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. USE OR RETRANSMISSION OF THE INFORMATION CONTAINED HEREIN IN ANY OTHER FORMAT THAN THE FORMAT AS PRESENTED IS STRICTLY PROHIBITED. MOBIL NEITHER REPRESENTS NOR WARRANTS THAT THE FORMAT, CONTENT OR PRODUCT FORMULAS CONTAINED IN THIS DOCUMENT COMPLY WITH THE LAWS OF ANY OTHER COUNTRY EXCEPT THE UNITED STATES OF AMERICA.

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ITEM: 3WA32 - Battery AA 1.5v Pk8

PICK REQ: 1075436051

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B0745

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - B0745
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Associated Grainger Item: 3WA32 - Battery AA 1.5v Pk8

7YV47, 7YV48, 6KT34, 1WC71, 1WC72, 1WC73, 1WC74, 2V421, 2V422, 2V532, 2V533
2V534, 4WT07, 4WT08, 4WT09, 4WT11, 5U076, 4LW07, 4LW13, 4LV99, 5U813, 3WA30
3WA31, 3WA32, 3WA33, 3WA34, 2ZB21, 2V418, 2V948, 2V423, 2V553, 2V821, 2V822
2V823, 2V949, 5U053, 5U056, 5U057, 5U061, 2V415, 3WA35, 3WA36, 3WA37, 3WA38
3AXH8, 3AXH9

RAYOVAC(R*)

MATERIAL SAFETY DATA SHEET

RAYOVAC CORPORATION
601 RAYOVAC DRIVE
MADISON WI 53711

PHONE: 608-275-3340

FAX: 608-275-4577

HTTP://WWW.RAYOVAC.COM

1. WE WOULD LIKE TO INFORM OUR CUSTOMERS THAT THESE BATTERIES ARE EXEMPT ARTICLES AND ARE NOT SUBJECT TO THE 29 CFR 1910.1200 OSHA REQUIREMENT, OR TO THE CANADIAN WHMIS REQUIREMENTS AND THE SHEETS ARE SUPPLIED AS A SERVICE TO YOU. FOR OTHER MSDS AND RELATED INFORMATION, VISIT:
HTTP://WWW.RAYOVAC.COM/TECHNICAL/MSDS.HTM.

1. IDENTIFICATION

PRODUCT NAME: ALKALINE BATTERIES - "NO MERCURY" FORMULA

SIZES: ALL

EMERGENCY TELEPHONE NUMBER: 800-424-9300 (24 HR, CHEMTREC)

ENVIRONMENTAL HEALTH & SAFETY INFORMATION: 608-275-2482

EDITION DATE: 03/05/2007

APPROVED BY: KEVIN J. DOMACK

2. INGREDIENTS

| INGREDIENT NAME | CAS # | % | TLV* |
|------------------------------|-----------|---------|--------------------------|
| MANGANESE DIOXIDE | 1313-13-9 | 32 - 38 | CS.0 MG/M3 (TWA) |
| STEEL | 7439-89-6 | 19 - 23 | |
| ZINC | 7440-66-6 | 11 - 16 | 5 MG/M3 (ZnO, FUME, TWA) |
| POTASSIUM HYDROXIDE | 1310-58-3 | 5 - 9 | NOT LISTED |
| GRAPHITE | 7782-42-5 | 3 - 5 | 15 MPPCF |
| BARIUM SULFATE | 7727-43-7 | <5 | 15 MG/M3 (TWA) |
| WATER, PAPER, PLASTIC, OTHER | | | BALANCE |

*SOURCE: OSHA 29 CFR 1910.1000 TABLE Z-1 3-01-2007

3. PHYSICAL DATA

BOILING POINT @ 760 MMHg (DEG. C): NA

VAPOR PRESSURE (MMHg @ 25 DEG. C): NA

VAPOR DENSITY (AIR = 1): NA

DENSITY (GRAMS/CC): NA

PERCENT VOLATILE BY VOLUME (%): NA

EVAPORATION RATE (BUTYL ACETATE = 1): NA

PHYSICAL STATE: NA

SOLUBILITY IN WATER (% BY WEIGHT): NA

pH: NA

APPEARANCE AND ODOR: GEOMETRIC SOLID OBJECT

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT: NA

FLAMMABLE LIMITS IN AIR (%): NA

LOWER (LEL): NA

UPPER (UEL): NA

EXTINGUISHING MEDIA: USE WATER, FOAM OR DRY POWDER, AS APPROPRIATE.

AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES:
AS WITH ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION OF HAZARDOUS DECOMPOSITION PRODUCTS (SEE SECTION 2).

SPECIAL FIRE EXPLOSION HAZARDS:
LIKE ANY SEALED CONTAINER, BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT; THIS COULD RESULT IN THE RELEASE OF FLAMMABLE OR CORROSIVE MATERIALS.

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE:

NONE. (IN FIRE OR RUPTURE SITUATION SEE SECTION 2 AND SECTION 4)

EMERGENCY FIRST AID PROCEDURES:

SKIN AND EYES:

IN THE EVENT THAT BATTERY RUPTURES, FLUSH EXPOSED SKIN WITH COPIOUS QUANTITIES OF FLOWING Lukewarm water for a minimum of 15 minutes. GET IMMEDIATE MEDICAL ATTENTION FOR EYES. WASH SKIN WITH SOAP AND WATER.

SWALLOWING:

INGESTION OF A BATTERY CAN BE HARMFUL. CALL THE NATIONAL CAPITAL POISON CENTER (800-222-1222), DAY OR NIGHT, FOR ADVICE AND FOLLOW-UP.

FOR MORE INFORMATION, VISIT:

HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

6. REACTIVITY DATA

STABLE OR UNSTABLE: STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NA

HAZARDOUS DECOMPOSITION PRODUCTS: NA

DECOMPOSITION TEMPERATURE (0 DEG. F): NA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: AVOID ELECTRICAL SHORTING.

7. SPILL OR LEAK PROCEDURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:

IN THE EVENT OF A BATTERY RUPTURE, PREVENT SKIN CONTACT AND COLLECT ALL RELEASED MATERIAL IN A PLASTIC LINED METAL CONTAINER.

REPORTING PROCEDURE:

REPORT ALL SPILLS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REPORTING REQUIREMENTS.

WASTE DISPOSAL METHOD:

THESE BATTERIES CAN BE LANDFILLED IF ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS ARE COMPLIED WITH. FOR ADDITIONAL INFORMATION ON DISPOSAL OR RECYCLING OPTIONS, VISIT:

HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

8. PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA

VENTILATION:

LOCAL EXHAUST: NA

MECHANICAL (GENERAL): NA

SPECIAL: NA

OTHER: NA

PROTECTIVE GLOVES: NA

EYE PROTECTION: NA

OTHER PROTECTIVE CLOTHING: NA

9. SPECIAL PRECAUTIONS

HANDLING AND STORAGE:

STORE IN A DRY PLACE. STORING UNPACKAGED CELLS TOGETHER COULD RESULT IN CELL SHORTING AND HEAT BUILD-UP.

TRANSPORTATION-SHIPPING:

THESE ARE "BATTERIES, DRY" AND ARE NOT CONSIDERED TO BE A "HAZARDOUS MATERIAL" PER THE DEPT. OF TRANSPORTATION (USDOT) REGULATIONS OR "DANGEROUS GOODS" PER THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) REGULATIONS. SHIPMENTS MUST COMPLY WITH THE GENERAL DUTY CLAUSE OF USDOT 49 CFR 172.102 (A) (1) SPECIAL PROVISION 130, "TO PREVENT SHORTING POTENTIAL WHILE TRANSPORTING."

10. SARA 313

NOTIFICATION IS NOT REQUIRED BECAUSE THESE PRODUCTS ARE ARTICLE(S) THAT DO NOT RELEASE A COVERED TOXIC CHEMICAL UNDER THE NORMAL CONDITIONS OF PROCESSING OR USE.

NOTICE:

THE INFORMATION AND RECOMMENDATIONS SET FORTH ARE MADE IN GOOD FAITH AND ARE BELIEVED TO BE ACCURATE AT THE DATE OF PREPARATION. RAYOVAC CORPORATION MAKES NO WARRANTY EXPRESSED OR IMPLIED.

NA = NOT APPLICABLE

ITEM: 5ZN11 - Grease 2 NLGI Grade

PICK REQ: 1075436051

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A8300

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A8300

Associated Grainger Item: 5ZN11 - Grease 2 NLGI Grade

EXXON MOBIL

PRODUCT NAME: MOBILITH SHC 220

REVISION DATE: 05 AUG 2005

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:

PRODUCT NAME: MOBILITH SHC 220

PRODUCT DESCRIPTION: SYNTHETIC BASE STOCKS AND ADDITIVES

PRODUCT CODE: 644021-00, 970409

INTENDED USE: GREASE

COMPANY IDENTIFICATION:

SUPPLIER: EXXON MOBIL CORPORATION 3225 GALLOWES RD. FAIRFAX, VA. 22037 USA

24 HOUR HEALTH EMERGENCY: 609-737-4411

TRANSPORTATION EMERGENCY PHONE: 800-424-9300

EXXON MOBIL TRANSPORTATION NO.: 281-834-3296

MSDS REQUESTS: 713-613-3661

PRODUCT TECHNICAL INFORMATION: 800-662-4525 800-947-9147

MSDS INTERNET ADDRESS: HTTP://WWW.EXXON.COM HTTP://WWW.MOBIL.COM

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

REPORTABLE HAZARDOUS SUBSTANCE(S) OR COMPLEX SUBSTANCE(S):

Table with 3 columns: NAME, CAS#, CONCENTRATION*. Row 1: ZINC DIALKYL DITHIOPHOSPHATE, 68457-79-4, 1 - 5%

* ALL CONCENTRATIONS ARE PERCENT BY WEIGHT UNLESS MATERIAL IS A GAS. GAS CONCENTRATIONS ARE IN PERCENT BY VOLUME.

SECTION 3 HAZARDS IDENTIFICATION

THIS MATERIAL IS NOT CONSIDERED TO BE HAZARDOUS ACCORDING TO REGULATORY GUIDELINES (SEE (M)SDS SECTION 15).

POTENTIAL HEALTH EFFECTS: LOW ORDER OF TOXICITY. EXCESSIVE EXPOSURE MAY RESULT IN EYE, SKIN, OR RESPIRATORY IRRITATION. HIGH-PRESSURE INJECTION UNDER SKIN MAY CAUSE SERIOUS DAMAGE.

ENVIRONMENTAL HAZARDS: HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

NFPA HAZARD ID: HEALTH 0 FLAMMABILITY 1 REACTIVITY 0

HMS HAZARD ID: HEALTH 0 FLAMMABILITY 1 REACTIVITY 0

NOTE: THIS MATERIAL SHOULD NOT BE USED FOR ANY OTHER PURPOSE THAN THE INTENDED USE IN SECTION 1 WITHOUT EXPERT ADVICE. HEALTH STUDIES HAVE SHOWN THAT CHEMICAL EXPOSURE MAY CAUSE POTENTIAL HUMAN HEALTH RISKS WHICH MAY VARY FROM PERSON TO PERSON.

SECTION 4 FIRST AID MEASURES

INHALATION: UNDER NORMAL CONDITIONS OF INTENDED USE, THIS MATERIAL IS NOT EXPECTED TO BE AN INHALATION HAZARD.

SKIN CONTACT: WASH CONTACT AREAS WITH SOAP AND WATER. IF PRODUCT IS INJECTED INTO OR UNDER THE SKIN, OR INTO ANY PART OF THE BODY, REGARDLESS OF THE APPEARANCE OF THE WOUND OR ITS SIZE, THE INDIVIDUAL SHOULD BE EVALUATED IMMEDIATELY BY A PHYSICIAN AS A SURGICAL EMERGENCY. EVEN THOUGH INITIAL SYMPTOMS FROM HIGH PRESSURE INJECTION MAY BE MINIMAL OR ABSENT, EARLY SURGICAL TREATMENT WITHIN THE FIRST FEW HOURS MAY SIGNIFICANTLY REDUCE THE ULTIMATE EXTENT OF INJURY.

EYE CONTACT: FLUSH THOROUGHLY WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ASSISTANCE.

INGESTION: FIRST AID IS NORMALLY NOT REQUIRED. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

APPROPRIATE EXTINGUISHING MEDIA: USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE (CO2) TO EXTINGUISH FLAMES.

INAPPROPRIATE EXTINGUISHING MEDIA: STRAIGHT STREAMS OF WATER

FIRE FIGHTING:

FIRE FIGHTING INSTRUCTIONS: EVACUATE AREA. PREVENT RINOFF FROM FIRE CONTROL OR DILUTION FROM ENTERING STREAMS, SEWERS, OR DRINKING WATER SUPPLY. FIREFIGHTERS SHOULD USE STANDARD PROTECTIVE EQUIPMENT AND IN ENCLOSED SPACES, SELF-CONTAINED BREATHING APPARATUS (SCBA). USE WATER SPRAY TO COOL FIRE EXPOSED SURFACES AND TO PROTECT PERSONNEL.

HAZARDOUS COMBUSTION PRODUCTS: ALDEHYDES, INCOMPLETE COMBUSTION PRODUCTS, OXIDES OF CARBON, SMOKE, FUME, SULFUR OXIDES

FLAMMABILITY PROPERTIES:

FLASH POINT (METHOD): >204 DEG. C (400 DEG. F) (EST. FOR OIL, ASTM D-92 (COC))

FLAMMABLE LIMITS (APPROXIMATE VOLUME % IN AIR):

LEL: N/D

UEL: N/D

AUTOIGNITION TEMPERATURE: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: IN THE EVENT OF A SPILL OR ACCIDENTAL RELEASE, NOTIFY RELEVANT AUTHORITIES IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. U.S. REGULATIONS REQUIRE REPORTING RELEASES OF THIS MATERIAL TO THE ENVIRONMENT WHICH EXCEED THE REPORTABLE QUANTITY OR OIL SPILLS WHICH COULD REACH ANY WATERWAY INCLUDING INTERMITTENT DRY CREEKS. THE NATIONAL RESPONSE CENTER CAN BE REACHED AT (800) 424-8802.

SPILL MANAGEMENT:

LAND SPILL: ALLOW SPILLED MATERIAL TO SOLIDIFY AND SCRAPE UP WITH SHOVELS INTO A SUITABLE CONTAINER FOR RECYCLE OR DISPOSAL.

WATER SPILL: CONFINE THE SPILL IMMEDIATELY WITH BOOMS. STOP LEAK IF YOU CAN DO IT WITHOUT RISK. SKIM FROM SURFACE.

WATER SPILL AND LAND SPILL RECOMMENDATIONS ARE BASED ON THE MOST LIKELY SPILL SCENARIO FOR THIS MATERIAL; HOWEVER, GEOGRAPHIC CONDITIONS, WIND, TEMPERATURE, (AND IN THE CASE OF A WATER SPILL) WAVE AND CURRENT DIRECTION AND SPEED MAY GREATLY INFLUENCE THE APPROPRIATE ACTION TO BE TAKEN. FOR THIS REASON, LOCAL EXPERTS SHOULD BE CONSULTED. NOTE: LOCAL REGULATIONS MAY PRESCRIBE OR LIMIT ACTION TO BE TAKEN.

ENVIRONMENTAL PRECAUTIONS: PREVENT ENTRY INTO WATERWAYS, SEWERS, BASEMENTS OR CONFINED AREAS.

SECTION 7 HANDLING AND STORAGE

HANDLING: PREVENT SMALL SPILLS AND LEAKAGE TO AVOID SLIP HAZARD.

STATIC ACCUMULATOR: THIS MATERIAL IS NOT A STATIC ACCUMULATOR.

STORAGE: DO NOT STORE IN OPEN OR UNLABELLED CONTAINERS.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: LIMITS/STANDARDS SHOWN FOR GUIDANCE ONLY. FOLLOW APPLICABLE REGULATIONS.

ENGINEERING CONTROLS: THE LEVEL OF PROTECTION AND TYPES OF CONTROLS NECESSARY WILL VARY DEPENDING UPON POTENTIAL EXPOSURE CONDITIONS. CONTROL MEASURES TO CONSIDER: NO SPECIAL REQUIREMENTS UNDER ORDINARY CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

PERSONAL PROTECTION: PERSONAL PROTECTIVE EQUIPMENT SELECTIONS VARY BASED ON POTENTIAL EXPOSURE CONDITIONS SUCH AS APPLICATIONS, HANDLING PRACTICES, CONCENTRATION AND VENTILATION. INFORMATION ON THE SELECTION OF PROTECTIVE EQUIPMENT FOR USE WITH THIS MATERIAL, AS PROVIDED BELOW, IS BASED UPON INTENDED, NORMAL USAGE.

RESPIRATORY PROTECTION: IF ENGINEERING CONTROLS DO NOT MAINTAIN AIRBORNE CONTAMINANT CONCENTRATIONS AT A LEVEL WHICH IS ADEQUATE TO PROTECT WORKER HEALTH, AN APPROVED RESPIRATOR MAY BE APPROPRIATE. RESPIRATOR SELECTION, USE, AND MAINTENANCE MUST BE IN ACCORDANCE WITH REGULATORY REQUIREMENTS, IF APPLICABLE. TYPES OF RESPIRATORS TO BE CONSIDERED FOR THIS MATERIAL INCLUDE: NO PROTECTION IS ORDINARILY REQUIRED UNDER NORMAL CONDITIONS OF USE AND WITH ADEQUATE VENTILATION.

FOR HIGH AIRBORNE CONCENTRATIONS, USE AN APPROVED SUPPLIED-AIR RESPIRATOR.

OPERATED IN POSITIVE PRESSURE MODE. SUPPLIED AIR RESPIRATORS WITH AN ESCAPE BOTTLE MAY BE APPROPRIATE WHEN OXYGEN LEVELS ARE INADEQUATE, GAS/VAPOR WARNING PROPERTIES ARE POOR, OR IF AIR PURIFYING FILTER CAPACITY/RATING MAY BE EXCEEDED.

HAND PROTECTION:
ANY SPECIFIC GLOVE INFORMATION PROVIDED IS BASED ON PUBLISHED LITERATURE AND GLOVE MANUFACTURER DATA. WORK CONDITIONS CAN GREATLY AFFECT GLOVE DURABILITY; INSPECT AND REPLACE WORN OR DAMAGED GLOVES. THE TYPES OF GLOVES TO BE CONSIDERED FOR THIS MATERIAL INCLUDE:
NO PROTECTION IS ORDINARILY REQUIRED UNDER NORMAL CONDITIONS OF USE.

EYE PROTECTION:
IF CONTACT IS LIKELY, SAFETY GLASSES WITH SIDE SHIELDS ARE RECOMMENDED.

SKIN AND BODY PROTECTION:
ANY SPECIFIC CLOTHING INFORMATION PROVIDED IS BASED ON PUBLISHED LITERATURE OR MANUFACTURER DATA. THE TYPES OF CLOTHING TO BE CONSIDERED FOR THIS MATERIAL INCLUDE:
NO SKIN PROTECTION IS ORDINARILY REQUIRED UNDER NORMAL CONDITIONS OF USE. IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE PRACTICES, PRECAUTIONS SHOULD BE TAKEN TO AVOID SKIN CONTACT.

SPECIFIC HYGIENE MEASURES:
ALWAYS OBSERVE GOOD PERSONAL HYGIENE MEASURES, SUCH AS WASHING AFTER HANDLING THE MATERIAL AND BEFORE EATING, DRINKING, AND/OR SMOKING. ROUTINELY WASH WORK CLOTHING AND PROTECTIVE EQUIPMENT TO REMOVE CONTAMINANTS. DISCARD CONTAMINATED CLOTHING AND FOOTWEAR THAT CANNOT BE CLEANED. PRACTICE GOOD HOUSEKEEPING.

ENVIRONMENTAL CONTROLS: SEE SECTIONS 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES ARE GIVEN BELOW. CONSULT THE SUPPLIER IN SECTION 1 FOR ADDITIONAL DATA.

GENERAL INFORMATION:

PHYSICAL STATE: SOLID

FORM: SEMI-FLUID

COLOR: RED

ODOR: CHARACTERISTIC

ODOR THRESHOLD: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION:

RELATIVE DENSITY (AT 15 DEG. C): 1

FLASH POINT (METHOD):
>204 DEG. C (400 DEG. F) (EST. FOR OIL, ASTM D-92 (COC))

FLAMMABLE LIMITS (APPROXIMATE VOLUME % IN AIR):
LEL: N/D
UEL: N/D

AUTOIGNITION TEMPERATURE: N/D

BOILING POINT / RANGE: >316 DEG. C (600 DEG. F)

VAPOR DENSITY (AIR = 1): N/D

VAPOR PRESSURE: <0.013 KPA (0.1 MMHG) AT 20 DEG. C

EVAPORATION RATE (n-BUTYL ACETATE = 1): N/D

pH: N/A

LOG POW (n-OCTANOL/WATER PARTITION COEFFICIENT): >3.5

SOLUBILITY IN WATER: NEGLIGIBLE

VISCOSITY: 220 CST (220 MM2/SEC) AT 40 DEG. C

OXIDIZING PROPERTIES: SEE SECTIONS 3, 15, 16.

OTHER INFORMATION:
FREEZING POINT: N/D
MELTING POINT: N/D

NOTE:
MOST PHYSICAL PROPERTIES ABOVE ARE FOR THE OIL COMPONENT IN THE MATERIAL.

SECTION 10 STABILITY AND REACTIVITY

STABILITY: MATERIAL IS STABLE UNDER NORMAL CONDITIONS.

CONDITIONS TO AVOID: EXCESSIVE HEAT. HIGH ENERGY SOURCES OF IGNITION.

MATERIALS TO AVOID: STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:
MATERIAL DOES NOT DECOMPOSE AT AMBIENT TEMPERATURES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

ROUTE OF EXPOSURE

CONCLUSION / REMARKS

INHALATION:

TOXICITY (RAT):
LC50: >5000 MG/MB

MINIMALLY TOXIC. BASED ON ASSESSMENT OF THE COMPONENTS.

IRRITATION: NO END POINT DATA.

NEGLIGIBLE HAZARD AT AMBIENT/NORMAL HANDLING TEMPERATURES. BASED ON ASSESSMENT OF THE COMPONENTS.

INGESTION:

TOXICITY (RAT):
LD50: >2000 MG/KG

MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.

SKIN:

TOXICITY (RABBIT):
LD50: >2000 MG/KG

MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.

IRRITATION (RABBIT):
DATA AVAILABLE.

NEGLIGIBLE IRRITATION TO SKIN AT AMBIENT TEMPERATURES. BASED ON ASSESSMENT OF THE COMPONENTS.

EYE:

IRRITATION (RABBIT):
DATA AVAILABLE.

MAY CAUSE MILD, SHORT-LASTING DISCOMFORT TO EYES. BASED ON ASSESSMENT OF THE COMPONENTS.

CHRONIC/OTHER EFFECTS:

CONTAINS:

SYNTHETIC BASE OILS:
NOT EXPECTED TO CAUSE SIGNIFICANT HEALTH EFFECTS UNDER CONDITIONS OF NORMAL USE, BASED ON LABORATORY STUDIES WITH THE SAME OR SIMILAR MATERIALS. NOT MUTAGENIC OR GENOTOXIC. NOT SENSITIZING IN TEST ANIMALS AND HUMANS.

ADDITIONAL INFORMATION IS AVAILABLE BY REQUEST.

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW: NONE.

REGULATORY LISTS SEARCHED:

- 1 = NTP CARC
- 2 = NTP SUS
- 3 = IARC 1
- 4 = IARC 2A
- 5 = IARC 2B
- 6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

THE INFORMATION GIVEN IS BASED ON DATA AVAILABLE FOR THE MATERIAL, THE COMPONENTS OF THE MATERIAL, AND SIMILAR MATERIALS.

ECOTOXICITY:

MATERIAL:
EXPECTED TO BE HARMFUL TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.

MOBILITY:

BASE OIL COMPONENT:
EXPECTED TO PARTITION TO SEDIMENT AND WASTEWATER SOLIDS. LOW SOLUBILITY AND FLOATS AND IS EXPECTED TO MIGRATE FROM WATER TO THE LAND.

SECTION 13 DISPOSAL CONSIDERATIONS

DISPOSAL RECOMMENDATIONS BASED ON MATERIAL AS SUPPLIED. DISPOSAL MUST BE IN ACCORDANCE WITH CURRENT APPLICABLE LAWS AND REGULATIONS, AND MATERIAL CHARACTERISTICS AT TIME OF DISPOSAL.

DISPOSAL RECOMMENDATIONS:

PRODUCT IS SUITABLE FOR BURNING IN AN ENCLOSED CONTROLLED BURNER FOR FUEL VALUE OR DISPOSAL BY SUPERVISED INCINERATION AT VERY HIGH TEMPERATURES TO PREVENT FORMATION OF UNDESIRABLE COMBUSTION PRODUCTS. SUITABLE ROUTES OF DISPOSAL ARE SUPERVISED INCINERATION OR APPROPRIATE RECYCLING METHODS IN ACCORDANCE WITH APPLICABLE REGULATIONS AND MATERIAL CHARACTERISTICS AT THE TIME OF DISPOSAL.

REGULATORY DISPOSAL INFORMATION:

RCRA INFORMATION:

THE UNUSED PRODUCT, IN OUR OPINION, IS NOT SPECIFICALLY LISTED BY THE EPA AS A HAZARDOUS WASTE (40 CFR, PART 261D), NOR IS IT FORMULATED TO CONTAIN MATERIALS WHICH ARE LISTED AS HAZARDOUS WASTES. IT DOES NOT EXHIBIT THE HAZARDOUS CHARACTERISTICS OF IGNITABILITY, CORROSIVITY OR REACTIVITY AND IS NOT FORMULATED WITH CONTAMINANTS AS DETERMINED BY THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP). HOWEVER, USED PRODUCT MAY BE REGULATED.

EMPTY CONTAINER WARNING:

PRECAUTIONARY LABEL TEXT:

EMPTY CONTAINERS MAY RETAIN RESIDUE AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. DO NOT ATTEMPT TO REFILL OR CLEAN CONTAINER SINCE RESIDUE IS DIFFICULT TO REMOVE. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY RETURNED TO A DRUM RECONDITIONER. ALL CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): NOT REGULATED FOR LAND TRANSPORT

LAND (TDG): NOT REGULATED FOR LAND TRANSPORT

SEA (IMDG): NOT REGULATED FOR SEA TRANSPORT ACCORDING TO IMDG-CODE

AIR (IATA): NOT REGULATED FOR AIR TRANSPORT

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD:
WHEN USED FOR ITS INTENDED PURPOSES, THIS MATERIAL IS NOT CLASSIFIED AS HAZARDOUS IN ACCORDANCE WITH OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: TSCA

EPCRA: THIS MATERIAL CONTAINS NO EXTREMELY HAZARDOUS SUBSTANCES.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: NONE.

SARA (313) TOXIC RELEASE INVENTORY:

| CHEMICAL NAME | CAS NUMBER | TYPICAL VALUE |
|------------------------------|------------|---------------|
| ZINC DIALKYL DITHIOPHOSPHATE | 68457-79-4 | 1 - 5% |

THE FOLLOWING INGREDIENTS ARE CITED ON THE LISTS BELOW:*

| CHEMICAL NAME | CAS NUMBER | LIST CITATIONS |
|------------------------------|------------|----------------|
| DIPHENYLAMINE | 122-39-4 | 5, 9, 18 |
| ZINC DIALKYL DITHIOPHOSPHATE | 68457-79-4 | 13, 15, 17 |
| ZINC NEODECANOATE | 27253-29-8 | 15 |

REGULATORY LISTS SEARCHED:

1 = ACGIH ALL
2 = ACGIH A1
3 = ACGIH A2
4 = OSHA Z
5 = TSCA 4
6 = TSCA 5A2
7 = TSCA 5E
8 = TSCA 6
9 = TSCA 12B
10 = CA P65 CARC
11 = CA P65 REPRO
12 = CA RTK
13 = IL RTK
14 = LA RTK
15 = MI 293
16 = MN RTK
17 = NJ RTK
18 = PA RTK
19 = RI RTK

CODE KEY:
CARC=CARCINOGEN
REPRO=REPRODUCTIVE

* EPA RECENTLY ADDED NEW CHEMICAL SUBSTANCES TO ITS TSCA SECTION 4 TEST RULES. PLEASE CONTACT THE SUPPLIER TO CONFIRM WHETHER THE INGREDIENTS IN THIS PRODUCT CURRENTLY APPEAR ON A TSCA 4 OR TSCA 12B LIST.

SECTION 16 OTHER INFORMATION

N/D = NOT DETERMINED
N/A = NOT APPLICABLE

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
NO REVISION INFORMATION IS AVAILABLE.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE, TO THE BEST OF EXXON MOBIL'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE ISSUED. YOU CAN CONTACT EXXON MOBIL TO INSURE THAT THIS DOCUMENT IS THE MOST CURRENT AVAILABLE FROM EXXON MOBIL. THE INFORMATION AND RECOMMENDATIONS ARE OFFERED FOR THE USER'S CONSIDERATION AND EXAMINATION. IT IS THE USER'S RESPONSIBILITY TO SATISFY ITSELF THAT THE PRODUCT IS SUITABLE FOR THE INTENDED USE. IF BUYER REPACKAGES THIS PRODUCT, IT IS THE USER'S RESPONSIBILITY TO INSURE PROPER HEALTH, SAFETY AND OTHER NECESSARY INFORMATION IS INCLUDED WITH AND/OR ON THE CONTAINER. APPROPRIATE WARNINGS AND SAFE-HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. ALTERATION OF THIS DOCUMENT IS STRICTLY PROHIBITED. EXCEPT TO THE EXTENT REQUIRED BY LAW, RE-PUBLICATION OR RETRANSMISSION OF THIS DOCUMENT, IN WHOLE OR IN PART, IS NOT PERMITTED. THE TERM, "EXXON MOBIL" IS USED FOR CONVENIENCE, AND MAY INCLUDE ANY ONE OR MORE OF EXXON MOBIL CHEMICAL COMPANY, EXXON MOBIL CORPORATION, OR ANY AFFILIATES IN WHICH THEY DIRECTLY OR INDIRECTLY HOLD ANY INTEREST.

INTERNAL USE ONLY:
MHC: 0, 0, 0, 0, 0, 0

PPEC: A

DGN: 2010011XUS (553335)

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ITEM: 2G590 - Anchor Drywall Pk 25

PICK REQ: 1074088395

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A9533

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A9533

Associated Grainger Item: 2G590 - Anchor Drywall Pk 25

2G496, 2G498, 2G500, 2G506, 2G516, 2G518, 2G520, 2G522, 2G524, 2G526, 2G534, 2G536, 2G542, 2G546, 2G550, 2G552, 2G554, 2G556, 2G558, 2G560, 2G562, 2G564, 2G566, 2G568, 2G570, 2G572, 2G574, 2G576, 2G578, 2G590, 2G592

ITW RAMSET/RED HEAD

MATERIAL SAFETY DATA SHEET

THESE PRODUCTS DO NOT MEET THE CRITERIA OF HAZARDOUS CHEMICALS AS DEFINED BY THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200(C)). THIS FORM IS BEING PROVIDED SOLELY AS GENERAL INFORMATION AND SHOULD NOT BE CONSTRUED AS A DETERMINATION THAT THE PRODUCT(S) ARE HAZARDOUS CHEMICAL(S).

GENERAL INFORMATION

MANUFACTURER: ITW RAMSET/RED HEAD 1300 NORTH MICHAEL DRIVE WOOD DALE, ILLINOIS 60191

PHONE NUMBER: (630) 350-0370

DATE: AUGUST 1, 2005

PRODUCT IDENTIFICATION

PRODUCT NAME: METAL FASTENERS (CONCRETE ANCHORS, POWDER ACTUATED FASTENERS, GAS POWERED FASTENERS) AND MASONRY DRILL BITS.

FORMULA: N/A

TYPICAL CHEMICAL COMPOSITION

VARIOUS METALS, FERROUS AND NON-FERROUS PLATINGS COATINGS (OPTIONAL): SEE "ADDITIONAL OR MISCELLANEOUS INFORMATION"

PHYSICAL DATA

PHYSICAL STATE: SOLID APPEARANCE: VARIOUS SHAPES BOILING POINT: N/A MELTING POINT: GREATER THAN 1400 DEG. F SOLUBILITY IN WATER: N/A pH: N/A SPECIFIC GRAVITY: 7.6 - 7.8 VAPOR PRESSURE: N/A VAPOR DENSITY: N/A EVAPORATION RATE: N/A % VOLATILE BY VOLUME: N/A ODOR: NONE

FIRE AND EXPLOSION HAZARD DATA

NOT APPLICABLE

REACTIVITY DATA

STABILITY: STABLE HAZARDOUS DECOMPOSITION PRODUCTS: NONE ANTICIPATED INCOMPATIBLE (MATERIALS TO AVOID): ACIDS POLYMERIZATION: WILL NOT OCCUR

HEALTH HAZARD DATA

HEALTH EFFECTS/SIGNS AND SYMPTOMS: NOT APPLICABLE USUAL ROUTE(S) OF ENTRY: SHARP METAL FASTENERS MAY CUT SKIN MEDICAL CONDITIONS POSSIBLE AGGRAVATED: NONE KNOWN CARCINOGEN INFORMATION: NONE KNOWN EYE CONTACT: NOT ANTICIPATED TO POSE A SIGNIFICANT EYE HAZARD. SKIN CONTACT: NOT ANTICIPATED TO POSE A SIGNIFICANT SKIN HAZARD. INGESTION: NOT ANTICIPATED TO POSE A SIGNIFICANT INGESTION HAZARD. INHALATION: NOT CONSIDERED AN INHALATION HAZARD.

OCCUPATIONAL EXPOSURE CONTROL MEASURES

EYE PROTECTION: SAFETY GLASSES RECOMMENDED

SKIN PROTECTION: GLOVES RECOMMENDED

INGESTION: NEVER PLACE METAL FASTENERS INTO MOUTH.

SPILL, LEAK AND DISPOSAL INFORMATION

PROCEDURES TO FOLLOW IF MATERIAL IS RELEASED OR SPILLED: N/A

WASTE DISPOSAL METHOD(S):

ANY EXCESS PRODUCT CAN BE RECYCLED FOR FURTHER USE OR DISPOSED BY METHODS WHICH ARE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

ADDITIONAL OR MISCELLANEOUS INFORMATION

COATINGS ARE APPLIED TO THE SURFACE OF METAL PRODUCTS. THESE ARE USUALLY CLASSIFIED AS PROTECTIVE COATINGS OR LUBRICANTS. THE TYPICAL COATINGS ARE AS FOLLOWS:

ZINC PLATING/CHROMATE DYEING (COLOR IDENTIFICATION)

THE POSSIBLE PRESENCE OF THESE COATINGS ON METAL PRODUCTS SHOULD BE RECOGNIZED WHEN EVALUATING POTENTIAL EMPLOYEE HEALTH HAZARDS AND EXPOSURES DURING NORMAL USE.

METAL FASTENERS MSDS

 Section 14 -- TRANSPORT INFORMATION

US Ground (DOT)

May be classed as Consumer Commodity, ORM-D
 UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as Consumer Commodity, ORM-D
 UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity
 UN1950, AEROSOLS, CLASS 2, LIMITED QUANTITY, Ems F-D, S-U

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

| CAS No. | CHEMICAL/COMPOUND | % by WT | % Element |
|---------|-------------------|---------|-----------|
| | Barium Compound | 2 | 0.06 |

CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

MATERIAL SAFETY DATA SHEET: LEXITE PS AEROSOL

DATE OF ISSUE: 05/07/2003

SUPERCEDES: 04/27/2000

SECTION I - GENERAL INFORMATION

Chemical Name & Synonyms:

N/A

Chemical Family:

SOLVENT MIXTURE

Manufacturer's Name:

CHEMSEARCH DIV. OF NCH CORP.

Address:

BOX 152170

IRVING, TX 75015

Prepared By:

L Boynton/Chemist

Trade Name & Synonyms:

LEXITE PS AEROSOL

Formula Mixture: X

Product Code Number

5185

Emergency Phone Number

800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

| <u>Chemical Name (Ingredients)</u> | <u>Hazard</u> | <u>TLV</u> | <u>PEL</u> | <u>STEL</u> | <u>CAS #</u> |
|------------------------------------|---------------|------------|------------|-------------|--------------|
| ETHANOL | \$ | 1000 PPM 1 | 1000 PPM 2 | N/E | 64-17-5 |
| METHANOL | FLAM/IRR | 200 PPM 1 | 200 PPM 2 | 250 PPM 1 | 67-56-1 |
| CARBON DIOXIDE | ASPHYXIANT | 5000 PPM 1 | 5000 PPM 2 | N/E | 124-38-9 |
| N-HEXANE | FLAM/IRR | 50 PPM 1 | 50 PPM 2 | N/E | 110-54-3 |
| 3-METHYL PENTANE | FLAM/IRR | 500 PPM 1 | N/E 2. | 1000 PPM 1 | 96-14-0 |
| 2-METHYL PENTANE | FLAM/IRR | 500 PPM 1 | N/E 2. | 1000 PPM 1 | 107-83-5 |
| ISOPROPANOL | FLAM/IRR | 400 PPM 1 | 400 PPM 2 | N/E | 67-63-0 |
| \$ CARC/FLAM/IRR | | | | | |

SECTION III - PHYSICAL DATA

| | | | |
|--------------------------------|-------------|-------------------------------------|-------------|
| Boiling Point (f): | 155° | Specific Gravity (H2O=1): | 0.744 |
| Vapor Pressure (MM HG): | 3817.27 | Color: | COLORLESS |
| Vapor Density (Air=1): | 1.5 | Odor: | ALCOHOL |
| PH @ 100% : | 6.0 | Clarity | TRANSPARENT |
| % Volatile by Volume: | 100 | Evaporation Rate (BU A/C=1): | 128.12 |
| H2O Solubility: | APPRECIABLE | Viscosity: | NON-VISCOUS |

SECTION IV - FIRE AND EXPLOSION HAZARD

| | | | |
|---------------------|--------------------------|-------------|-------------|
| Flash Point: | Flammable Limits: | LEL: | UEL: |
| 38°F / SETAFLASH | PRODUCT MIXTURE | 1.0% | 19% |

Extinguishing Media:

Foam:X Alcohol Foam:X CO2:X Dry Chemical:X Water Spray:X Other:

Special Fire Fighting Procedures:

FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING FIRE. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:

FLAME EXTENSION IS >30 INCHES. BURNBACK IS 6 INCHES. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO DISTANT SOURCES OF IGNITION AND FLASHBACK.

EYE CONTACT: MAY CAUSE IRRITATION SEEN AS REDNESS, STINGING AND TEARING. SKIN CONTACT: MAY CAUSE IRRITATION SEEN AS ITCHING AND REDNESS. PROLONGED OR REPEATED CONTACT MAY CAUSE DEFATTING AND DRYNESS OF THE SKIN. INHALATION: MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS HEADACHE, DIZZINESS, DROWSINESS, WEAKNESS, UNCONCIOUSNESS, LOSS OF CONCENTRATION, LOSS OF APPETITE AND POSSIBLE ANESTHETIC EFFECTS FROM CENTRAL NERVOUS SYSTEM DEPRESSION. INGESTION: MAY CAUSE IRRITATION WITH POSSIBLE NAUSEA, VOMITING, DIARRHEA AND CENTRAL NERVOUS SYSTEM EFFECTS SIMILAR TO INHALATION. MAY CAUSE CHEMICAL PNEUMONITIS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. CONTAINS METHANOL WHICH MAY CAUSE BLINDNESS IF INGESTED.

-Chronic (Long Term Exposure)

LONG-TERM INGESTION OF ETHANOL MAY RESULT IN THE DEVELOPMENT OF PROGRESSIVE LIVER INJURY WITH FIBROSIS, SLEEP DISORDERS, HALLUCINATIONS, CONVULSIONS, ATAXIA AND PULMONARY CHANGES. ADDITIONALLY, REPEATED INGESTION BY PREGNANT WOMEN HAS BEEN SHOWN TO ADVERSELY AFFECT THE CENTRAL NERVOUS SYSTEM OF THE FETUS KNOWN AS FETAL ALCOHOL SYNDROME. IARC HAS ALSO DETERMINED THAT CHRONIC INGESTION OF ETHANOL CAN CAUSE CANCER OF THE LIVER. PROLONGED AND REPEATED INHALATION OF N-HEXANE HAS BEEN ASSOCIATED WITH IRREGULAR HEART RHYTHMS AND POTENTIAL CARDIAC ARREST. HIGH CONCENTRATIONS MAY CAUSE PERIPHERAL AND CENTRAL NERVOUS SYSTEM TOXICITY IN HUMANS. PERIPHERAL NERVE DAMAGE MAY BE EVIDENCED BY LOSS OR IMPAIRMENT OF MOTOR FUNCTION AND/OR LOSS OF SENSATION IN THE ARMS AND LEGS. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS; PRE-EXISTING HEART AND LIVER CONDITIONS. TARGET ORGANS: CENTRAL AND PERIPHERAL NERVOUS SYSTEMS, EYES, HEART, LIVER, REPRODUCTIVE AND RESPIRATORY SYSTEMS.

Primary Routes of Entry:

Inhalation: X

Ingestion:

Absorption:

Emergency and First Aid Procedures:

-Inhalation:

REMOVE FROM AREA TO FRESH AIR. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION OCCURS OR IF BREATHING BECOMES DIFFICULT.

-Eye Contact:

RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Skin Contact:

WASH AFFECTED AREAS WITH PLENTY OF SOAP AND WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

-Notes to Physician:

INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. DEPENDING ON THE AMOUNT INGESTED AND RETAINED AS WELL AS THE TOXICITY OF THE PRODUCT, GASTRIC LAVAGE SHOULD BE CONSIDERED. KEEP PATIENT'S HEAD BELOW HIPS TO PREVENT PULMONARY ASPIRATION. IF COMATOSE, A CUFFED ENDOTRACHEAL TUBE WILL PREVENT ASPIRATION.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC: Yes

NTP: No

OSHA: No

ACGIH: No

OTHER: No

VOC CONTENT: 94.9% BY WEIGHT; 296 GRAMS PER CAN

ETHANOL

ORL-HMN LD₅₀: 1400 MG/KG 3.

ORL-RAT LD₅₀: 7060 MG/KG 3.

IHL-RAT LC₅₀: 20,000 PPM/10H 3.

SKN-RBT-SDT: 20 MG/24H MODERATE 3.

EYE-RBT-SDT: 500 MG/24H MILD 3.

IARC HAS DETERMINED THAT ETHANOL IS A CARCINOGEN AFFECTING THE LIVER BASED ON CHRONIC EXPOSURE THROUGH HUMAN CONSUMPTION VIA THE DRINKING OF ALCOHOLIC BEVERAGES OVER AN EXTENDED PERIOD OF TIME. 4.

METHANOL

ORL-RAT LD₅₀: 5628 MG/KG 3.

IHL-RAT LC₅₀: 64,000 PPM/4H 3.

SKN-RBT LD₅₀: 15,800 MG/KG 3.

SKN-RBT-SDT: 20 MG/24 H MODERATE 3.

EYE-RBT-SDT: 100 MG/24 H MODERATE 3.

OVEREXPOSURE TO THIS MATERIAL (OR TO ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF CENTRAL NERVOUS SYSTEM DAMAGE IN LABORATORY ANIMALS AND VISUAL IMPAIRMENT IN HUMANS. 5.

METHANOL HAS CAUSED BIRTH DEFECTS IN LABORATORY ANIMALS. BUT ONLY WHEN

METHANOL HAS CAUSED BIRTH DEFECTS IN LABORATORY ANIMALS, BUT ONLY WHEN INHALED AT EXTREMELY HIGH VAPOR CONCENTRATIONS. THE RELEVANCE OF THIS FINDING TO HUMANS IS UNCERTAIN. 5.

ISOPROPANOL

ORL-HMN LDLo: 3570 MG/KG 3.
ORL-RAT LD50: 5045 MG/KG 3.
IHL-RAT LC50: 16000 PPM/8H 3.
SKN-RBT LD50: 12800 MG/KG 3.
SKN-RBT-SDT: 500 MG MILD 3.
EYE-RBT-SDT: 10 MG MODERATE 3.

N-HEXANE

ORL-RAT LD50: 25 G/KG 3.
IHL-RAT LC50: 48000 PPM/4H 3.
IHL-HMN TCLo: 190 PPM/8W 3.
EYE-RBT-SDT: 10 MG MILD 3.

THIS MATERIAL MAY ADVERSELY AFFECT THE MALE REPRODUCTIVE SYSTEM BASED ON TESTING IN LABORATORY ANIMALS. 5.

3-METHYL PENTANE

NO TOXICITY DATA AVAILABLE

2-METHYL PENTANE

ORL-RAT TDLo: 10 G/KG/4W-I 3.

CARBON DIOXIDE

IHL-RAT TCLo: 10000 PPM/24(S)-30 DAYS CONTINUOUS 5.
IHL-HMN LCLo: 9 PPM/5M 5.

SECTION VII - REACTIVITY DATA

Stability:

Stable:X

Unstable:

Conditions to Avoid: AVOID HEAT, HOT SURFACES, SPARKS AND OPEN FLAMES.

Incompatibility (Materials to Avoid):

STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE; REDUCING AGENTS SUCH AS SODIUM THIOSULFATE; ACETYL CHLORIDE, BASES, METALS, METAL CARBIDE AND METAL SALTS.

Hazardous Decomposition Products:

OXIDES OF CARBON.

Hazardous Polymerization:

May Occur:

Will Not Occur: X

Conditions to Avoid: N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:

DUE TO THE NATURE OF THE AEROSOL PACKAGING, A LARGE SPILL IS UNLIKELY. FOR A SMALL SPILL, WEAR APPROPRIATE PROTECTIVE CLOTHING, ELIMINATE ALL SOURCES OF IGNITION AND VENTILATE THE AREA. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. USE CARE AS SPILLS MAY BE SLIPPERY.

Waste Disposal Method(s):

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. TYPICAL DISPOSAL IS TO WRAP THE EMPTY AEROSOL CONTAINER IN SEVERAL LAYERS OF NEWSPAPER AND DISPOSE OF IN THE TRASH. AEROSOL RECYCLING PROGRAMS ARE AVAILABLE IN MANY AREAS. DO NOT PUNCTURE OR INCINERATE THIS CONTAINER.

Neutralizing Agent:

N/A

SECTION IX - SPECIAL PROTECTION INFORMATION

Required Ventilation:

LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE EXCESSIVE LEVELS OF MISTS. LOCAL VENTILATION IS PREFERRED, BECAUSE IT PREVENTS DISPERSION INTO WORK AREAS BY CONTROLLING IT AT ITS SOURCE.

Respiratory Protection:

RESPIRATORS SHOULD BE SELECTED BY AND USED UNDER THE DIRECTION OF A TRAINED HEALTH AND SAFETY PROFESSIONAL FOLLOWING REQUIREMENTS FOUND IN OSHA'S RESPIRATOR STANDARD (29 CFR 1910.134) AND ANSI'S STANDARD FOR RESPIRATORY PROTECTION (Z88.2-1992). FOR CONCENTRATIONS ABOVE THE TLV AND/OR PEL BUT LESS THAN 10 TIMES THESE LIMITS, A NIOSH APPROVED HALF-FACEPIECE RESPIRATOR EQUIPPED WITH APPROPRIATE CHEMICAL CARTRIDGES MAY BE USED. FOR CONCENTRATIONS GREATER THAN 10 TIMES THE TLV AND/OR PEL CONSULT THE NIOSH RESPIRATOR DECISION LOGIC FOUND IN PUBLICATION NO. 87-116 OR ANSI Z88.2-

PLEASE CALL 1-800-527-9919 FOR ADDITIONAL INFORMATION IF YOU ARE A CALIFORNIA CUSTOMER.
THIS MSDS IS NOT INTENDED FOR USERS IN THE STATE OF CALIFORNIA

SECTION XII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2002. 2. OSHA PEL. 3. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFOWeb, 2003. 4. IARC. 5. VENDOR'S MSDS. ALL THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND ARE EITHER LISTED ON THE TSCA INVENTORY OR OTHERWISE EXEMPTED FROM LISTING. IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP, LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE PROTECTION ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH:AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE, SEV:SEVERE, MUT:MUTAGENIC, ASPHYX:ASPHYXIAN, PNOS:PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDT:STANDARD DRAIZE TEST, ORL:ORAL, IHL:INHALATION, HMN:HUMAN

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

CHEMSEARCH DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product."

MATERIAL SAFETY DATA SHEET

20000
02 00

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|----------------|---------------------|--------------|---|
| PRODUCT NUMBER | DATE OF PREPARATION | HMIS CODES | |
| 20000 | 04-OCT-07 | Health | 2 |
| | | Flammability | 4 |
| | | Reactivity | 0 |

PRODUCT NAME
TRI-FLOW™ Superior Lubricant with PTFE

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
Consumer Group - Industrial
Cleveland, OH 44115

TELEPHONE NUMBERS and WEBSITES
Regulatory Information
(216) 566-2902 www.paintdocs.com
Medical Emergency
(216) 566-2917
Transportation Emergency for Chemical Emergency ONLY (spill, leak,
(800) 424-9300 fire, exposure, or accident)

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

| % by WT | CAS No. | INGREDIENT | UNITS | VAPOR PRESSURE |
|---------|------------|--------------------------------|---------------------|----------------|
| 10 | 74-98-6 | Propane | | |
| | | ACGIH TLV | 2500 ppm | 760 mm |
| | | OSHA PEL | 1000 ppm | |
| 10 | 106-97-8 | Butane | | |
| | | ACGIH TLV | 800 ppm | 760 mm |
| | | OSHA PEL | 800 ppm | |
| 24 | 64742-47-8 | Heavy Aliphatic Solvent | | |
| | | ACGIH TLV | Not Available | 1.53 mm |
| | | OSHA PEL | Not Available | |
| 41 | 64742-52-5 | Heavy Naphthenic Petroleum Oil | | |
| | | ACGIH TLV | 5 mg/m3 as Mist | |
| | | OSHA PEL | 5 mg/m3 as Mist | |
| 2 | 64741-97-5 | Naphthenic Oil | | |
| | | ACGIH TLV | 5 mg/m3 as Mist | |
| | | OSHA PEL | Not Available | |
| 3 | 64742-65-0 | Heavy Paraffinic Oil | | |
| | | ACGIH TLV | 5 mg/m3 as Mist | |
| | | OSHA PEL | 5 mg/m3 as Mist | |
| 2 | 34590-94-8 | 2-Methoxymethylethoxypropanol | | |
| | | ACGIH TLV | 100 ppm (Skin) | 0.4 mm |
| | | ACGIH TLV | 150 ppm (Skin) STEL | |
| | | OSHA PEL | 100 ppm (Skin) | |
| | | OSHA PEL | 150 ppm (Skin) STEL | |
| 2 | 628-63-7 | Amyl Acetate | | |
| | | ACGIH TLV | 100 ppm | 4 mm |
| | | OSHA PEL | 100 ppm | |

Continued on page 2

 Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

 Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes.
Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.

INHALATION: If affected, remove from exposure. Restore breathing.
Keep warm and quiet.

INGESTION: Do not induce vomiting.
Get medical attention immediately.

 Section 5 -- FIRE FIGHTING MEASURES

| FLASH POINT | LEL | UEL |
|------------------|-----|------|
| Propellant < 0 F | 0.6 | 14.0 |

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits.

Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|--|-------------------|--|
| PRODUCT WEIGHT | 6.50 lb/gal | 778 g/l |
| SPECIFIC GRAVITY | 0.78 | |
| BOILING POINT | <0 - 500 F | <-18 - 260 C |
| MELTING POINT | Not Available | |
| VOLATILE VOLUME | 56 % | |
| EVAPORATION RATE | Faster than ether | |
| VAPOR DENSITY | Heavier than air | |
| SOLUBILITY IN WATER | N.A. | |
| VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged) | | |
| Volatile Weight | 48.20% | Less Water and Federally Exempt Solvents |

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable
CONDITIONS TO AVOID
 None known.
INCOMPATIBILITY
 None known.
HAZARDOUS DECOMPOSITION PRODUCTS
 By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION
 Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
 No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
 Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

Continued on page 5

| CAS No. | Ingredient Name | | | | |
|------------|--------------------------------|------|-----|-----|---------------|
| 74-98-6 | Propane | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 106-97-8 | Butane | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 64742-47-8 | Heavy Aliphatic Solvent | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 64742-52-5 | Heavy Naphthenic Petroleum Oil | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 64741-97-5 | Naphthenic Oil | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 64742-65-0 | Heavy Paraffinic Oil | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | Not Available |
| 34590-94-8 | 2-Methoxymethylethoxypropanol | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 5135 mg/kg |
| 628-63-7 | Amyl Acetate | LC50 | RAT | 4HR | Not Available |
| | | LD50 | RAT | | 6500 mg/kg |

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Continued on page 6

MATERIAL SAFETY DATA SHEET: SILA-CHEM AEROSOL

Section I - General Information

(000000-000000- - 5603)

Date of Issue:

3/18/2004 12:00:00 AM

Supercedes:

6/18/2001 12:00:00 AM

Chemical Name & Synonyms:

N/A

Trade Name & Synonyms:

SILA-CHEM-AEROSOL

Chemical Family:

HYDROCARBON/SILOXANE BLEND

Formula is a mixture: **Manufacturer Name:**

CHEMSEARCH DIV. OF NCH CORP.

Manufacturer Address:BOX 152170
IRVING, TX 75015**Prepared By:**

C Williamson/Chemist

Product Code Number:

5603

Emergency Phone Number:

800-424-9300

Section II - Hazardous Ingredients

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

| Chemical Name (Ingredients) | Hazard | TLV | PEL | STEL | CAS # |
|-----------------------------|------------|-----------|-----------|-----------|----------|
| N-HEXANE | FLAM/IRR | 50 PPM 1 | 50 PPM 2 | N/E | 110-54-3 |
| 3-METHYLPENTANE | FLAM/IRR | 500PPM 1 | N/E 2. | 1000PPM 1 | 96-14-0 |
| 2-METHYLPENTANE | FLAM/IRR | 500PPM 1 | N/E 2. | 1000PPM 1 | 107-83-5 |
| PROPANE | FLAM/ASPHX | 2500PPM 1 | 1000PPM 2 | N/E | 74-98-6 |
| ISOBUTANE | FLAM/IRR | N/E | N/E | N/E | 75-28-5 |

Section III - Physical Data

| | |
|---|--|
| Boiling Point (°F): 143° | Specific Gravity (H ₂ O=1): 0.745 |
| Vapor Pressure (mm Hg): 35-65psi | Color: COLORLESS |
| Vapor Density (Air=1): 3 | Odor: SOLVENT |
| pH @ 100% : N/A | Clarity: TRANSPARENT |
| % Volatile by Volume: 92.2 | Evaporation Rate (BuAc=1): 8.6 |
| H ₂ O Solubility: NEGLIGIBLE | Viscosity: NON-VISCOUS |

Section IV - Fire and Explosion Hazard

Flash Point: <31°F
Flammable Limits: N-HEXANE
LEL: 1.1%

Method Used: T.C.C.

UEL: 7.5%

Aerosol Level (NFPA 30B): N/A

Extinguishing Media:

Foam Alcohol Foam CO₂
 Dry Chemical Water Spray Other

NFPA 704 Hazard Rating:

| | |
|-----------------|-----------------|
| 4-Extreme | Health: 1 |
| 3-High | Flammability: 4 |
| 2-Moderate | Instability: 0 |
| 1-Slight | Special: |
| 0-Insignificant | |

Special Fire Fighting Procedures:

FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO DISTANT SOURCES OF IGNITION AND FLASHBACK. PRODUCT MAY PRODUCE A FLOATING FIRE HAZARD AS LIQUID FLOATS ON WATER. THE USE OF WATER SPRAY (F0G) WHILE EFFECTIVE, MAY CAUSE FROTHING AND FOAMING. NEVER USE A WATER JET AS THIS WILL JUST SPREAD THE FIRE. FLAME EXTENSION IS 30 INCHES, BURNBACK IS 3 INCHES.

Section V - Health and Hazard Data

Threshold Limit Value:

NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

Effects of Overexposure:

Acute: (Short Term Exposure)

EYE CONTACT: MAY CAUSE IRRITATION SEEN AS TEARING AND REDNESS. SKIN CONTACT: MAY CAUSE IRRITATION SEEN AS ITCHING AND REDNESS. PROLONGED OR REPEATED CONTACT MAY CAUSE DEFATTING AND DRYING OF THE SKIN. INHALATION: AT HIGH VAPOR CONCENTRATIONS, INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION SEEN AS HEADACHE, DIZZINESS, LIGHTEADEDNESS, NAUSEA AND LOSS OF COORDINATION. CONTINUED INHALATION MAY CAUSE UNCONSCIOUSNESS AND DEATH. INGESTION: MAY CAUSE CHEMICAL PNEUMONITIS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL.

Chronic: (Long Term Exposure)

PROLONGED AND REPEATED INHALATION HAS BEEN ASSOCIATED WITH IRREGULAR HEART RHYTHMS AND POTENTIAL CARDIAC ARREST. HIGH CONCENTRATIONS MAY CAUSE PERIPHERAL AND CENTRAL NERVOUS SYSTEM TOXICITY IN HUMANS. PERIPHERAL NERVE DAMAGE MAY BE EVIDENCED BY LOSS OR IMPAIRMENT OF MOTOR FUNCTION AND/OR LOSS OF SENSATION IN THE ARMS AND LEGS. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS. TARGET ORGANS: CENTRAL AND PERIPHERAL NERVOUS SYSTEM, HEART, REPRODUCTIVE SYSTEM.

Primary Routes of Entry

Inhalation Ingestion Absorption

Emergency First Aid Procedures:

Inhalation:

REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

Eye Contact:

RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

Skin Contact:

WASH AFFECTED AREAS WITH PLENTY OF SOAP AND WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

Notes to Physician:

INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. LIGHT HYDROCARBONS LIKE THIS ONE HAVE BEEN ASSOCIATED WITH CARDIAC SENSITIZATION IN ABUSE SITUATIONS. HYPOXIA OR THE INJECTION OF ADRENALINE-LIKE SUBSTANCES ENHANCES THESE EFFECTS.

Section VI - Toxicity Information

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC NTP OSHA ACGIH Other

N-HEXANE
ORL-RAT LD50: 25 GM/KG 4.
IHL-HMN TClO: 190 PPM/8W 4.
EYE-RBT-SDT: 10 MG MILD 4.

THIS MATERIAL MAY ADVERSELY AFFECT THE MALE REPRODUCTIVE SYSTEM BASED ON TESTING IN LABORATORY ANIMALS. 3.

3-METHYLPENTANE
NO TOXICITY DATA AVAILABLE

2-METHYLPENTANE
ORL-RAT TDLo: 10 GM/KG/4W-I 4.

PROPANE/ISOBUTANE MIXTURE
NO APPARENT ILL EFFECTS IN BREATHING CONCENTRATIONS OF 5% FOR 2 HOURS. 3.
CAUSES DROWSINESS IN SHORT TIME IN CONCENTRATIONS OF 1%. 3.

Section VII - Reactivity Data

| | | | |
|---|-----------------------------------|--|------------------------------------|
| Stability | | Hazardous Polymerization | |
| <input checked="" type="checkbox"/> Stable | <input type="checkbox"/> Unstable | <input checked="" type="checkbox"/> Will not occur | <input type="checkbox"/> May occur |
| Conditions to Avoid: | | Conditions to Avoid: | |
| AVOID HEAT, HOT SURFACES, SPARKS AND OPEN FLAMES. | | N/A | |

Incompatibility (Materials to Avoid):
STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE.

Hazardous Decomposition Products:
OXIDES OF CARBON AND VARIOUS HYDROCARBONS.

Section VIII - Spill Or Leak Procedures

Steps to be Taken if Material is Released or Spilled:
ELIMINATE ALL SOURCES OF IGNITION. ISOLATE AND VENTILATE THE AREA. WEAR APPROPRIATE PROTECTIVE CLOTHING. USE CARE AS SPILLS MAY BE SLIPPERY. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER. FLUSH AREA WITH WATER.

Waste Disposal Method(s):
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS. TYPICAL DISPOSAL IS TO WRAP THE EMPTY AEROSOL CONTAINER IN SEVERAL LAYERS OF NEWSPAPER AND DISPOSE OF IN THE TRASH. AEROSOL RECYCLING PROGRAMS ARE AVAILABLE IN MANY AREAS. DO NOT PUNCTURE OR INCINERATE THIS CONTAINER.

Neutralizing Agent:
N/A

Section IX - Special Protection Information

Required Ventilation:
LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE MISTS OR VAPORS.

Respiratory Protection:
A NIOSH/MSHA APPROVED RESPIRATOR IN POORLY VENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV OR OSHA PEL OR WHERE MISTING EXISTS.

Glove Protection:
NEOPRENE OR NITRILE RUBBER GLOVES IF REPEATED OR PROLONGED SKIN CONTACT IS LIKELY.

Eye Protection:
SAFETY GLASSES IF THE METHOD OF USE PRESENTS THE LIKELIHOOD OF EYE CONTACT.

Other Protection:
WEAR GENERAL-DUTY WORK CLOTHES AND SHOES.

Section X - Storage and Handling Information

Storage Temperature

Max: 110°F Min: 40°F

Storage Conditions Indoors Outdoors Heated Refrigerated**Precautions to be Taken in Handling and Storing:**

USE WITH CAUTION AROUND HEAT, SPARKS, PILOT LIGHTS, STATIC ELECTRICITY AND OPEN FLAME. DO NOT PRESSURIZE, CUT, WELD, SOLDER, DRILL, GRIND OR EXPOSE EMPTY CONTAINERS TO HEAT, HOT SURFACES, SPARKS OR OPEN FLAMES.

Other Precautions:

KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUES WHICH MAY EXHIBIT THE HAZARDS OF THE PRODUCT.

Section XI - Regulatory Information

| <u>Chemical Name</u> | <u>CAS Number</u> | <u>Upper % Limit</u> |
|----------------------|-------------------|----------------------|
| N-HEXANE | 110-54-3 | 15 |

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Please call 1-800-527-9919 for additional information if you are a California customer. This MSDS is not intended for users in the state of California.

Section XII - References

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2001. 2. OSHA PEL. 3. VENDOR'S MSDS. 4. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFODisc, 2001. ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY. IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP, LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE PROTECTION ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH:AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE, SEV:SEVERE, MUT:MUTAGENIC, ASPHYX:ASPHYXIAN, PNOS:PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDT:STANDARD DRAIZE TEST, ORL:ORAL, IHL:INHALATION, HMN:HUMAN

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

CHEMSEARCH DIV. OF NCH CORP. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage, or disposal of the product.

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ITEM: 1MRB8 - Lithium Grease 15 Oz 350 Temp Rang

PICK REQ: 1072248919

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: A9998

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - A9998

Associated Grainger Item: 1MRB8 - Lithium Grease 15 Oz 350 Temp Rang

TUESDAY, FEBRUARY 27, 2007

MSDS
MATERIAL SAFETY DATA SHEET

I. BASIC INFORMATION

MANUFACTURER: RADIATOR SPECIALTY COMPANY
 ADDRESS: 600 RADIATOR ROAD
 CITY, ST ZIP: INDIAN TRAIL, NC 28079
 COUNTRY:
 CONTACT: ROBERT GEER
 INFORMATION TELEPHONE NUMBER: 704-688-3430
 EMERGENCY CONTACT: ROCKY MOUNTAIN POISON CONTROL CENTER
 EMERGENCY TELEPHONE NUMBER: 303-623-5716
 EMERGENCY RESTRICTIONS:
 PRODUCT NAME: LIQUID WRENCH INDUSTRIAL WHITE LITHIUM GREASE
 MSDS NO.: PL611
 ISSUE DATE: 01/04/2007
 SUPERSEDES DATE: NOT AVAILABLE

II. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
 DANGER:
 HARMFUL OR FATAL IF SWALLOWED. VAPOR HARMFUL. EYE AND SKIN IRRITANT.
 CONTENTS UNDER PRESSURE.
 LEVEL 1 AEROSOL
 OSHA REGULATORY STATUS:
 THIS MATERIAL IS CONSIDERED HAZARDOUS BY THE OSHA HAZARD COMMUNICATION
 STANDARD (29 CFR 1910.1200).
 POTENTIAL HEALTH EFFECTS:
 ROUTE(S) OF ENTRY: ABSORPTION, INHALATION, AND INGESTION.
 HEALTH HAZARDS (ACUTE AND CHRONIC):
 EXCESSIVE INGESTION MAY CAUSE STOMACH IRRITATION, NAUSEA, VOMITING. CAN
 CAUSE LIVER DAMAGE AND AFFECT THE KIDNEYS ADVERSELY.
 SIGNS AND SYMPTOMS:
 EYE CONTACT: IRRITANT. PROLONGED CONTACT MAY CAUSE CONJUNCTIVITIS.
 SKIN CONTACT: IRRITANT. DEFATTING OF TISSUE, DERMATITIS MAY OCCUR.
 INHALATION:
 IRRITANT TO MUCOUS MEMBRANES. REPEATED EXPOSURE MAY CAUSE NARCOSIS..
 INGESTION:
 HARMFUL OR FATAL IF SWALLOWED. MAY CAUSE BURNS TO MOUTH, THROAT & STOMACH.
 MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
 PROLONGED EXPOSURE ABOVE THE OSHA PERMISSIBLE EXPOSURE LIMIT MAY COMPLICATE
 EXISTING LIVER AND KIDNEY DISEASES.
 OTHER HEALTH WARNINGS:
 ASPIRATION OF VOMITUS INTO THE LUNGS CAN CAUSE PNEUMONITIS, WHICH CAN BE
 FATAL.
 POTENTIAL ENVIRONMENTAL EFFECTS: NOT AVAILABLE

III. COMPOSITION/INFORMATION ON INGREDIENTS

| CHEMICAL NAME | CAS NO. | % RANGE | TRADE SECRET |
|--|-------------|--------------|--------------|
| CARBON DIOXIDE | 124-38-9 | 1.0 - 5.0 | |
| ESTER OIL | PROPRIETARY | 1.0 - 5.0 | |
| LITHIUM GREASE | PROPRIETARY | 10.0 - 30.0 | |
| PETROLEUM DISTILLATE, HYDROTREATED MIDDLE | 64742-46-7 | 1.0 - 5.0 | |
| PETROLEUM LUBRICATING OIL BASE STOCK | 64742-18-3 | 0.1 - 1.0 | |
| TETRACHLOROETHYLENE | 127-18-4 | 60.0 - 100.0 | |

IV. FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:
 EYE CONTACT:
 FLUSH EYES WITH CLEAN WATER FOR 20 MINUTES WHILE LIFTING EYELIDS. GET
 PROMPT MEDICAL ATTENTION.
 SKIN CONTACT:

WASH SKIN WITH SOAP AND WATER THOROUGHLY. IF ADVERSE EFFECTS PERSIST, GET
 PROMPT MEDICAL ATTENTION. REMOVE AND ISOLATE CONTAMINATED CLOTHING. LAUNDRY
 CONTAMINATED CLOTHING BEFORE REUSE.

INHALATION:
 MOVE VICTIM TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, ADMINISTER OXYGEN
 AND GET PROMPT MEDICAL ATTENTION. IF BREATHING STOPS, GIVE ARTIFICIAL
 RESPIRATION AND GET PROMPT MEDICAL ATTENTION.

INGESTION:
 DO NOT INDUCE VOMITING!

CALL POISON CONTROL CENTER, PHYSICIAN, OR HOSPITAL EMERGENCY ROOM
 IMMEDIATELY. ASPIRATION OF VOMITUS INTO THE LUNGS CAN CAUSE PNEUMONITIS,
 WHICH CAN BE FATAL.

NOTE TO PHYSICIANS: N/E

V. FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: WATER FOG, FOAM, CARBON DIOXIDE, DRY CHEMICAL
 UNSUITABLE EXTINGUISHING MEDIA:
 DO NOT USE FORCED WATER STREAM AS THIS COULD CAUSE THE FIRE TO SPREAD.

PRODUCTS OF COMBUSTION:
 PRODUCT OF COMBUSTION ARE:
 CARBON DIOXIDE, CARBON MONOXIDE, PHOSGENE AND CHLORINE. FLAMES, WELDING,
 AND HIGH TEMPERATURES INDUCE DECOMPOSITION.
 IN THE PRESENCE OF WATER: HYDROCHLORIC ACID.

PROTECTION OF FIREFIGHTERS:
 WEAR SELF-CONTAINED POSITIVE PRESSURE BREATHING APPARATUS AND PROTECTIVE
 CLOTHES. USE SHIELD TO PROTECT FROM RUPTURING AND VENTING CONTAINERS. AT
 ELEVATED TEMPERATURES CONTAINERS MAY VENT, RUPTURE OR BURST, EVEN
 VIOLENTLY. VAPORS OF THIS PRODUCT MAY PRESENT A FUTURE HEALTH HAZARD IN
 POORLY VENTILATED AREAS. MAY LIBERATE CORROSIVE HYDROCHLORIC ACID OR TOXIC
 PHOSGENE FUMES.

VI. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
 PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF
 SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED.
 ENVIRONMENTAL PRECAUTIONS:
 PREVENT RUN-OFF TO SEWERS, STREAMS, OR OTHER BODIES OF WATER. IF RUN-OFF
 OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED THAT A SPILL HAS OCCURRED. RUN
 OFF TO SEWER MAY CREATE FIRE OR EXPLOSION HAZARD.

METHODS FOR CONTAINMENT:
 DIKE OR CONTAIN SPILL AND ABSORB WITH INERT MATERIALS (SAND, SAWDUST,
 ABSORBENT SWEEPING COMPOUNDS, RAGS, ETC).

METHODS FOR CLEANUP:
 USING A NON-METALLIC SCOOP, PLACE CONTAMINATED MATERIAL INTO AN APPROVED
 CHEMICAL WASTE CONTAINER. WHERE POSSIBLE, VACUUM SPILLED LIQUID TO
 RECOVER MATERIAL.

OTHER INFORMATION: N/A

VII. HANDLING AND STORAGE

HANDLING PRECAUTIONS:
 HANDLING:
 USE WITH ADEQUATE VENTILATION AND PROPER PROTECTIVE EQUIPMENT. DO NOT USE
 NEAR FIRE, SPARKS, OR FLAME. DO NOT PUNCTURE OR INCINERATE CONTAINER. AVOID
 CONTACT WITH EYES. AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF
 EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS, USE A NIOSH
 APPROVED RESPIRATOR TO PREVENT OVER-EXPOSURE. AVOID CONTACT WITH EYES. KEEP
 AWAY FROM CHILDREN AND ANIMALS.

STORAGE PRECAUTIONS:
 STORE IN COOL, WELL VENTILATED AREA BELOW 120 DEG. F AWAY FROM HEAT, FIRE,
 SPARKS OR FLAME.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

| CHEMICAL NAME | OSHA PEL | ACGIH TLV | OTHER LIMITS |
|--|---------------|---------------|---------------|
| TETRACHLOROETHYLENE | 25 PPM | 25 PPM | NOT AVAILABLE |
| LITHIUM GREASE | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |
| CARBON DIOXIDE | N/AV | 5000 PPM | NOT AVAILABLE |
| PETROLEUM DISTILLATE, HYDROTREATED MIDDLE | 5 MG/M3 | 5 MG/M3 | NOT AVAILABLE |
| ESTER OIL | N/D | N/D | NOT AVAILABLE |
| PETROLEUM LUBRICATING OIL BASE STOCK | N/E | N/E | NOT AVAILABLE |

ENGINEERING CONTROLS:
 SEE SECTION 2 FOR APPLICABLE EXPOSURE LIMITS. MAINTAIN ADEQUATE
 VENTILATION. AVOID BREATHING VAPORS. IN RESTRICTED AREAS, USE APPROVED
 CHEMICAL FILTERS DESIGNED TO REMOVE VAPOR. IN CONFINED AREAS, USE APPROVED
 AIR LINE TYPE RESPIRATOR OR HOOD. A SELF-CONTAINED BREATHING APPARATUS IS
 REQUIRED FOR VAPOR CONCENTRATIONS ABOVE TLV LIMITS.

PERSONAL PROTECTIVE EQUIPMENT:
 SEE SECTION 2 FOR APPLICABLE EXPOSURE LIMITS. FOR PROLONGED EXPOSURE WEAR
 PROTECTIVE SAFETY GLASSES, GLOVES, AND APRON.

IX. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: >200 DEG. F
MELTING POINT: N/A
BOILING RANGE: N/D
FREEZING POINT: N/D
SOLUBILITY IN WATER: INSOLUBLE
EVAPORATION RATE (BUTYL ACETATE = 1): >1.0
FLASH POINT: >200 DEG. F
FLASH POINT METHOD: TCC
ODOR THRESHOLD: N/D
APPEARANCE AND ODOR: OPAQUE DENSE YELLOW SUSPENSION WITH SWEET ODOR
VAPOR DENSITY (AIR = 1): 5.83
VAPOR PRESSURE (MMHg.): N/D
pH RANGE: N/A
PARTITION COEFFICIENT: N/D
DECOMPOSITION TEMP: N/D
AUTO-IGNITION TEMP: N/D
LOWER EXPLOSIVE LIMIT: N/D
UPPER EXPLOSIVE LIMIT: N/D
SPECIFIC GRAVITY (H2O = 1): 1.61
OTHER INFORMATION:
VOC CONTENT: 25%

X. STABILITY AND REACTIVITY

STABILITY: STABLE
CONDITIONS TO AVOID:
AVOID HEAT, SPARKS, AND FLAMES. AVOID INCOMPATIBLE MATERIALS.
INCOMPATIBLE MATERIALS:
AVOID CONTACT WITH METALS SUCH AS ALUMINUM POWDERS, MAGNESIUM POWDERS, POTASSIUM, SODIUM, AND ZINC POWDER. AVOID CONTACT WITH AMINES, STRONG BASES, AND OXIDIZERS.
HAZARDOUS DECOMPOSITION PRODUCTS:
UNDER FIRE CONDITIONS MAY INCLUDE CARBON DIOXIDE, CARBON MONOXIDE, PHOSGENE AND CHLORINE. FLAMES, WELDING, AND HIGH TEMPERATURES INDUCE DECOMPOSITION. IN THE PRESENCE OF WATER:
HYDROCHLORIC ACID.
POSSIBILITY OF HAZARDOUS REACTIONS: WILL NOT OCCUR.

XI. TOXICOLOGICAL INFORMATION

N/D

XII. ECOLOGICAL INFORMATION

N/D

XIII. DISPOSAL CONSIDERATIONS

DISPOSAL:
THIS CONTAINER MAY BE RECYCLED IN AEROSOL RECYCLING CENTERS WHEN EMPTY. BEFORE OFFERING FOR RECYCLING, EMPTY THE CAN BY USING THE PRODUCT ACCORDING TO THE LABEL.
DO NOT PUNCTURE!
IF RECYCLING IS NOT AVAILABLE, WRAP THE CONTAINER AND DISCARD IN THE TRASH. DISPOSE OF UNUSED PRODUCT IN ACCORDANCE WITH ALL LOCAL, STATE GOVERNMENT AND FEDERAL LAWS AND REGULATIONS.

XIV. TRANSPORT INFORMATION

SHIPPING NAME: NOT AVAILABLE
DOT HAZARD CLASS: NOT AVAILABLE
DOT SUBSIDIARY HAZARD CLASS: NOT AVAILABLE
UN/NA#: NOT AVAILABLE
MSDS PACK GROUP: NOT AVAILABLE
TRANSPORTATION INFORMATION:
DOT HAZARD CLASS: ORM-D
SHIPPING NAME: CONSUMER COMMODITY
THE DOT DESCRIPTION IS PROVIDED TO ASSIST IN THE PROPER SHIPPING CLASSIFICATION OF THIS PRODUCT AND MAY NOT BE SUITABLE FOR INTERNATIONAL AND AIR SHIPPING PURPOSES.
ICAO/IATA (US):
UN NUMBER: UN1950
SHIPPING NAME: AEROSOLS
CLASS: 2.1
INTERNATIONAL:
ICAO/IATA:
UN NUMBER: UN1950
SHIPPING NAME: AEROSOLS
CLASS: 2.1

IMDG:
UN NUMBER: UN1950
SHIPPING NAME: AEROSOLS
CLASS: 2
EMS: F-D, S-U

XV. REGULATORY INFORMATION

USA TSCA: ALL CHEMICALS USED ARE LISTED ON THE TSCA INVENTORY.
CERCLA RQ: 1000 LBS
SARA 302: NOT LISTED AS A EXTREMELY HAZARDOUS SUBSTANCE
SARA 311/312 HAZARD CLASS: ACUTE, CHRONIC
SARA 313 REPORTABLE: SEE SECTION 2 FOR SARA REPORTABLE CHEMICALS.
PROPOSITION 65 WARNING:
THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.
NEW JERSEY RIGHT-TO-KNOW: TETRACHLOROETHYLENE

XVI. OTHER INFORMATION

CHEMICAL STATE:
(X) LIQUID
() GAS
() SOLID

CHEMICAL TYPE:
() PURE
(X) MIXTURE

HAZARD CATEGORY:
(X) ACUTE
(X) CHRONIC
() FIRE
(X) PRESSURE
() REACTIVE

NFPA:
HEALTH 1
FIRE 1
REACTIVITY 0
SPECIAL

HEALTH 1
FLAMMABILITY 1
PHYSICAL HAZARD 0
PERS. PROTECTION C

ADDITIONAL MANUFACTURER WARNINGS:

DO NOT USED IN CONFINED AREA WITHOUT PROPER VENTILATION. CONTACT LENSES MAY CAUSE FURTHER DAMAGE IN CASE OF SPLASH INTO EYE.

KEEP AWAY FROM CHILDREN AND ANIMALS!

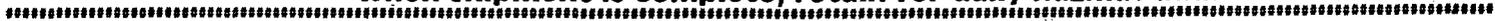
N/E: NOT ESTABLISHED
N/D: NOT DETERMINED
N/A: NOT APPLICABLE
N/AV: NOT AVAILABLE

ADDITIONAL PRODUCT INFORMATION:

WHILE RADIATOR SPECIALTY COMPANY BELIEVES THIS DATA IS ACCURATE AS OF THE REVISION DATE, WE MAKE NO WARRANTY WITH RESPECT TO THE DATA AND WE EXPRESSLY DISCLAIM ALL LIABILITY FOR RELIANCE THEREON. THE DATA IS OFFERED SOLELY FOR INFORMATION, INVESTIGATION, AND VERIFICATION. VARIOUS GOVERNMENT AGENCIES MAY HAVE SPECIFIC REGULATIONS REGARDING THE TRANSPORTATION, HANDLING, STORAGE, USE, OR DISPOSAL OF THIS PRODUCT WHICH MAY NOT BE COVERED BY THIS MSDS. THE USER IS RESPONSIBLE FOR FULL COMPLIANCE.

HAZARD MATERIAL WARNING SHEET (HAZMAT)

When shipment is complete, retain for daily Hazmat audit



GRAINGER SHIPPING INFORMATION

STOCK # : 1MRB8
MSDS # : A9998
FREIGHT CODE : 0800
DOT PROPER SHIP NAME : CONSUMER COMMODITY, ORM-D

UPS RESTRICTIONS :

HAZARDOUS CLASS NUMBER : ORM-D
UN ID # :
PACKING GROUP :
SHIPPING LABEL : Consumer Commodity ORM-D

LIMITED QUANTITY : YES
CARTON INSTRUCTIONS : CAN REPACK IN GRAINGER S CARTON
DOT/UPS EXEMPTION NO. :
COMMENTS : HAZARDOUS MATERIAL. DO NOT SHIP AIR!!
SHIPPING-PAPERS :

PLACARD OFFERED ? YES () NO () PLEASE MARK ONE

ITEM: 3WA32 - Battery AA 1.5v Pk8

PICK REQ: 1067825179

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B0745

This MSDS should be attached or kept with the respective product with which it is associated.

***** MATERIAL SAFETY DATA SHEET - B0745 *****

Associated Grainger Item: 3WA32 - Battery AA 1.5v Pk8

7YV47, 7YV48, 6XT34, 1WC71, 1WC72, 1WC73, 1WC74, 2V421, 2V422, 2V532, 2V533
 2V534, 4WT07, 4WT08, 4WT09, 4WT11, 5U076, 4LW07, 4LW13, 4LV99, 5U813, 3WA30
 3WA31, 3WA32, 3WA33, 3WA34, 2ZE21, 2V418, 2V948, 2V423, 2V553, 2V821, 2V822
 2V823, 2V949, 5U053, 5U056, 5U057, 5U061, 2V415, 3WA35, 3WA36, 3WA37, 3WA38

RAYOVAC(R*)

MATERIAL SAFETY DATA SHEET

RAYOVAC CORPORATION
 601 RAYOVAC DRIVE
 MADISON WI 53711

PHONE: 608-275-3340

FAX: 608-275-4577

HTTP://WWW.RAYOVAC.COM

1. WE WOULD LIKE TO INFORM OUR CUSTOMERS THAT THESE BATTERIES ARE EXEMPT ARTICLES AND ARE NOT SUBJECT TO THE 29 CFR 1910.1200 OSHA REQUIREMENT, OR TO THE CANADIAN WHMIS REQUIREMENTS AND THE SHEETS ARE SUPPLIED AS A SERVICE TO YOU. FOR OTHER MSDSS AND RELATED INFORMATION, VISIT:
 HTTP://WWW.RAYOVAC.COM/TECHNICAL/MSDS.HTM.

1. IDENTIFICATION

PRODUCT NAME: ALKALINE BATTERIES - "NO MERCURY" FORMULA

SIZES: ALL

EMERGENCY TELEPHONE NUMBER: 800-424-9300 (24 HR, CHEMTREC)

ENVIRONMENTAL HEALTH & SAFETY INFORMATION: 608-275-2482

EDITION DATE: 03/05/2007.

APPROVED BY: KEVIN J. DOMACK

2. INGREDIENTS

| INGREDIENT NAME | CAS # | % | TLV* |
|------------------------------|-----------|---------|--------------------------|
| MANGANESE DIOXIDE | 1313-13-9 | 32 - 38 | CS.0 MG/M3 (TWA) |
| STEEL | 7439-89-6 | 19 - 23 | |
| ZINC | 7440-66-6 | 11 - 16 | 5 MG/M3 (ZnO, FUME, TWA) |
| POTASSIUM HYDROXIDE | 1310-58-3 | 5 - 9 | NOT LISTED |
| GRAPHITE | 7782-42-5 | 3 - 5 | 15 MPPCF |
| BARIUM SULFATE | 7727-43-7 | <5 | 15 MG/M3 (TWA) |
| WATER, PAPER, PLASTIC, OTHER | | | BALANCE |

*SOURCE: OSHA 29 CFR 1910.1000 TABLE Z-1 3-01-2007

3. PHYSICAL DATA

BOILING POINT @ 760 MMHg (DEG. C): NA

VAPOR PRESSURE (MMHg @ 25 DEG. C): NA

VAPOR DENSITY (AIR = 1): NA

DENSITY (GRAMS/CC): NA

PERCENT VOLATILE BY VOLUME (%): NA

EVAPORATION RATE (BUTYL ACETATE = 1): NA

PHYSICAL STATE: NA

SOLUBILITY IN WATER (% BY WEIGHT): NA

pH: NA

APPEARANCE AND ODOR: GEOMETRIC SOLID OBJECT

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT: NA

FLAMMABLE LIMITS IN AIR (%): NA

LOWER (LEL): NA

UPPER (UEL): NA

EXTINGUISHING MEDIA: USE WATER, FOAM OR DRY POWDER, AS APPROPRIATE.

AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES:

AS WITH ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION OF HAZARDOUS DECOMPOSITION PRODUCTS (SEE SECTION 2).

SPECIAL FIRE EXPLOSION HAZARDS:

LIKE ANY SEALED CONTAINER, BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT; THIS COULD RESULT IN THE RELEASE OF FLAMMABLE OR CORROSIVE MATERIALS.

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE:

NONE. (IN FIRE OR RUPTURE SITUATION SEE SECTION 2 AND SECTION 4)

EMERGENCY FIRST AID PROCEDURES:

SKIN AND EYES:

IN THE EVENT THAT BATTERY RUPTURES, FLUSH EXPOSED SKIN WITH COPIOUS QUANTITIES OF FLOWING LUKEWARM WATER FOR A MINIMUM OF 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION FOR EYES. WASH SKIN WITH SOAP AND WATER.

SWALLOWING:

INGESTION OF A BATTERY CAN BE HARMFUL. CALL THE NATIONAL CAPITAL POISON CENTER (800-222-1222), DAY OR NIGHT, FOR ADVICE AND FOLLOW-UP.

FOR MORE INFORMATION, VISIT:

HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

6. REACTIVITY DATA

STABLE OR UNSTABLE: STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NA

HAZARDOUS DECOMPOSITION PRODUCTS: NA

DECOMPOSITION TEMPERATURE (0 DEG. F): NA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: AVOID ELECTRICAL SHORTING.

7. SPILL OR LEAK PROCEDURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:

IN THE EVENT OF A BATTERY RUPTURE, PREVENT SKIN CONTACT AND COLLECT ALL RELEASED MATERIAL IN A PLASTIC LINED METAL CONTAINER.

REPORTING PROCEDURE:

REPORT ALL SPILLS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REPORTING REQUIREMENTS.

WASTE DISPOSAL METHOD:

THESE BATTERIES CAN BE LANDFILLED IF ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS ARE COMPLIED WITH. FOR ADDITIONAL INFORMATION ON DISPOSAL OR RECYCLING OPTIONS, VISIT:
 HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

8. PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA

VENTILATION:

LOCAL EXHAUST: NA

MECHANICAL (GENERAL): NA

SPECIAL: NA

OTHER: NA

PROTECTIVE GLOVES: NA

EYE PROTECTION: NA

OTHER PROTECTIVE CLOTHING: NA

9. SPECIAL PRECAUTIONS

HANDLING AND STORAGE:

STORE IN A DRY PLACE. STORING UNPACKAGED CELLS TOGETHER COULD RESULT IN CELL SHORTING AND HEAT BUILD-UP.

TRANSPORTATION-SHIPING:

THESE ARE "BATTERIES, DRY" AND ARE NOT CONSIDERED TO BE A "HAZARDOUS MATERIAL" PER THE DEPT. OF TRANSPORTATION (USDOT) REGULATIONS OR "DANGEROUS GOODS" PER THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) REGULATIONS. SHIPMENTS MUST COMPLY WITH THE GENERAL DUTY CLAUSE OF USDOT 49 CFR 172.102 (A) (1) SPECIAL PROVISION 130, "TO PREVENT SHORTING POTENTIAL WHILE TRANSPORTING."

10. SARA 313

NOTIFICATION IS NOT REQUIRED BECAUSE THESE PRODUCTS ARE ARTICLE(S) THAT DO NOT RELEASE A COVERED TOXIC CHEMICAL UNDER THE NORMAL CONDITIONS OF PROCESSING OR USE.

NOTICE:

THE INFORMATION AND RECOMMENDATIONS SET FORTH ARE MADE IN GOOD FAITH AND ARE BELIEVED TO BE ACCURATE AT THE DATE OF PREPARATION. RAYOVAC CORPORATION MAKES NO WARRANTY EXPRESSED OR IMPLIED.

NA = NOT APPLICABLE

ITEM: 3WA33 - Battery AAA 1.5v Pk8

PICK REQ: 1067825179

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B0745

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - B0745

Associated Grainger Item: 3WA33 - Battery AAA 1.5v Pk8

7V47, 7V48, 6XT34, 1WC71, 1WC72, 1WC73, 1WC74, 2V421, 2V422, 2V532, 2V533
 2V534, 4WT07, 4WT08, 4WT09, 4WT11, 5U076, 4LW07, 4LW13, 4LW99, 5UB13, 3WA30
 3WA31, 3WA32, 3WA33, 3WA34, 2ZE21, 2V418, 2V948, 2V423, 2V553, 2V821, 2V822
 2V823, 2V949, 5U053, 5U056, 5U057, 5U061, 2V415, 3WA35, 3WA36, 3WA37, 3WA38

RAYOVAC(R*)

MATERIAL SAFETY DATA SHEET

RAYOVAC CORPORATION
 601 RAYOVAC DRIVE
 MADISON WI 53711

PHONE: 608-275-3340

FAX: 608-275-4577

HTTP://WWW.RAYOVAC.COM

1. WE WOULD LIKE TO INFORM OUR CUSTOMERS THAT THESE BATTERIES ARE EXEMPT ARTICLES AND ARE NOT SUBJECT TO THE 29 CFR 1910.1200 OSHA REQUIREMENT, OR TO THE CANADIAN WHMIS REQUIREMENTS AND THE SHEETS ARE SUPPLIED AS A SERVICE TO YOU. FOR OTHER MSDS AND RELATED INFORMATION, VISIT:
 HTTP://WWW.RAYOVAC.COM/TECHNICAL/MSDS.HTM.

1. IDENTIFICATION

PRODUCT NAME: ALKALINE BATTERIES - "NO MERCURY" FORMULA
 SIZES: ALL
 EMERGENCY TELEPHONE NUMBER: 800-424-9300 (24 HR, CHEMTREC)
 ENVIRONMENTAL HEALTH & SAFETY INFORMATION: 608-275-2482
 EDITION DATE: 03/05/2007
 APPROVED BY: KEVIN J. DOMACK

2. INGREDIENTS

| INGREDIENT NAME | CAS # | % | TLV* |
|------------------------------|-----------|-----------|--------------------------|
| MANGANESE DIOXIDE | | 1313-13-9 | 32 - 38 CS.0 MG/M3 (TWA) |
| STEEL | 7439-89-6 | 19 - 23 | |
| ZINC | 7440-66-6 | 11 - 16 | 5 MG/M3 (ZnO, FUME, TWA) |
| POTASSIUM HYDROXIDE | 1310-58-3 | 5 - 9 | NOT LISTED |
| GRAPHITE | 7782-42-5 | 3 - 5 | 15 MPPCF |
| BARIUM SULFATE | 7727-43-7 | <5 | 15 MG/M3 (TWA) |
| WATER, PAPER, PLASTIC, OTHER | | | BALANCE |

*SOURCE: OSHA 29 CFR 1910.1000 TABLE Z-1 3-01-2007

3. PHYSICAL DATA

BOILING POINT @ 760 MMHg (DEG. C): NA
 VAPOR PRESSURE (MMHg @ 25 DEG. C): NA
 VAPOR DENSITY (AIR = 1): NA
 DENSITY (GRAMS/CC): NA
 PERCENT VOLATILE BY VOLUME (%): NA
 EVAPORATION RATE (BUTYL ACETATE = 1): NA
 PHYSICAL STATE: NA
 SOLUBILITY IN WATER (% BY WEIGHT): NA
 pH: NA
 APPEARANCE AND ODOR: GEOMETRIC SOLID OBJECT

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT: NA
 FLAMMABLE LIMITS IN AIR (%): NA
 LOWER (LEL): NA
 UPPER (UEL): NA
 EXTINGUISHING MEDIA: USE WATER, FOAM OR DRY POWDER, AS APPROPRIATE.
 AUTO-IGNITION: NA
 SPECIAL FIRE FIGHTING PROCEDURES:
 AS WITH ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION OF HAZARDOUS DECOMPOSITION PRODUCTS (SEE SECTION 2).
 SPECIAL FIRE EXPLOSION HAZARDS:
 LIKE ANY SEALED CONTAINER, BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT; THIS COULD RESULT IN THE RELEASE OF FLAMMABLE OR CORROSIVE MATERIALS.

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA
 EFFECTS OF OVEREXPOSURE:
 NONE. (IN FIRE OR RUPTURE SITUATION SEE SECTION 2 AND SECTION 4)
 EMERGENCY FIRST AID PROCEDURES:
 SKIN AND EYES:
 IN THE EVENT THAT BATTERY RUPTURES, FLUSH EXPOSED SKIN WITH COPIOUS QUANTITIES OF FLOWING LUKEWARM WATER FOR A MINIMUM OF 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION FOR EYES. WASH SKIN WITH SOAP AND WATER.
 SWALLOWING:
 INGESTION OF A BATTERY CAN BE HARMFUL. CALL THE NATIONAL CAPITAL POISON CENTER (800-222-1222), DAY OR NIGHT, FOR ADVICE AND FOLLOW-UP.
 FOR MORE INFORMATION, VISIT:
 HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

6. REACTIVITY DATA

STABLE OR UNSTABLE: STABLE
 INCOMPATIBILITY (MATERIALS TO AVOID): NA
 HAZARDOUS DECOMPOSITION PRODUCTS: NA
 DECOMPOSITION TEMPERATURE (0 DEG. F): NA
 HAZARDOUS POLYMERIZATION: WILL NOT OCCUR
 CONDITIONS TO AVOID: AVOID ELECTRICAL SHORTING.

7. SPILL OR LEAK PROCEDURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:
 THESE BATTERIES CAN BE LANDFILLED IF ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS ARE COMPLIED WITH. FOR ADDITIONAL INFORMATION ON DISPOSAL OR RECYCLING OPTIONS, VISIT:
 HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/
 REPORTING PROCEDURE:
 REPORT ALL SPILLS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REPORTING REQUIREMENTS.
 WASTE DISPOSAL METHOD:
 THESE BATTERIES CAN BE LANDFILLED IF ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS ARE COMPLIED WITH. FOR ADDITIONAL INFORMATION ON DISPOSAL OR RECYCLING OPTIONS, VISIT:
 HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

8. PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA
 VENTILATION:
 LOCAL EXHAUST: NA
 MECHANICAL (GENERAL): NA
 SPECIAL: NA
 OTHER: NA
 PROTECTIVE GLOVES: NA
 EYE PROTECTION: NA
 OTHER PROTECTIVE CLOTHING: NA

9. SPECIAL PRECAUTIONS

HANDLING AND STORAGE:
 STORE IN A DRY PLACE. STORING UNPACKAGED CELLS TOGETHER COULD RESULT IN CELL SHORTING AND HEAT BUILD-UP.
 TRANSPORTATION-SHIPPING:
 THESE ARE "BATTERIES, DRY" AND ARE NOT CONSIDERED TO BE A "HAZARDOUS MATERIAL" PER THE DEPT. OF TRANSPORTATION (USDOT) REGULATIONS OR "DANGEROUS GOODS" PER THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) REGULATIONS. SHIPMENTS MUST COMPLY WITH THE GENERAL DUTY CLAUSE OF USDOT 49 CFR 172.102 (A) (1) SPECIAL PROVISION 130, "TO PREVENT SHORTING POTENTIAL WHILE TRANSPORTING."

10. SARA 313

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 NA = NOT APPLICABLE

ITEM: 4WT07 - Battery 1.5 V D Pk12

PICK REQ: 1067825179

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B0745

This MSDS should be attached or kept with the respective product with which it is associated.

***** MATERIAL SAFETY DATA SHEET - B0745 *****

Associated Grainger Item: 4WT07 - Battery 1.5 V D Pk12

7YV47, 7YV48, 6XT34, 1WC71, 1WC72, 1WC73, 1WC74, 2V421, 2V422, 2V532, 2V533, 2V534, 4WT07, 4WT08, 4WT09, 4WT11, 5U076, 4LW07, 4LW13, 4LV99, 5U813, 3WA30, 3WA31, 3WA32, 3WA33, 3WA34, 2ZB21, 2V418, 2V948, 2V423, 2V553, 2V821, 2V822, 2V823, 2V949, 5U053, 5U056, 5U057, 5U061, 2V415, 3WA35, 3WA36, 3WA37, 3WA38

RAYOVAC(R*)

MATERIAL SAFETY DATA SHEET

RAYOVAC CORPORATION
601 RAYOVAC DRIVE
MADISON WI 53711

PHONE: 608-275-3340

FAX: 608-275-4577

HTTP://WWW.RAYOVAC.COM

1. WE WOULD LIKE TO INFORM OUR CUSTOMERS THAT THESE BATTERIES ARE EXEMPT ARTICLES AND ARE NOT SUBJECT TO THE 29 CFR 1910.1200 OSHA REQUIREMENT, OR TO THE CANADIAN WHMIS REQUIREMENTS AND THE SHEETS ARE SUPPLIED AS A SERVICE TO YOU. FOR OTHER MSDS AND RELATED INFORMATION, VISIT: HTTP://WWW.RAYOVAC.COM/TECHNICAL/MSDS.HTM.

1. IDENTIFICATION

PRODUCT NAME: ALKALINE BATTERIES - "NO MERCURY" FORMULA

SIZES: ALL

EMERGENCY TELEPHONE NUMBER: 800-424-9300 (24 HR, CHEMTREC)

ENVIRONMENTAL HEALTH & SAFETY INFORMATION: 608-275-2482

EDITION DATE: 03/05/2007

APPROVED BY: KEVIN J. DOMACK

2. INGREDIENTS

Table with 4 columns: INGREDIENT NAME, CAS #, %, TLV*. Rows include MANGANESE DIOXIDE, STEEL, ZINC, POTASSIUM HYDROXIDE, GRAPHITE, BARIUM SULFATE, WATER, PAPER, PLASTIC, OTHER.

*SOURCE: OSHA 29 CFR 1910.1000 TABLE Z-1 3-01-2007.

3. PHYSICAL DATA

BOILING POINT @ 760 MMHg (DEG. C): NA

VAPOR PRESSURE (MMHg @ 25 DEG. C): NA

VAPOR DENSITY (AIR = 1): NA

DENSITY (GRAMS/CC): NA

PERCENT VOLATILE BY VOLUME (%): NA

EVAPORATION RATE (BUTYL ACETATE = 1): NA

PHYSICAL STATE: NA

SOLUBILITY IN WATER (% BY WEIGHT): NA

pH: NA

APPEARANCE AND ODOR: GEOMETRIC SOLID OBJECT

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT: NA

FLAMMABLE LIMITS IN AIR (%): NA

LOWER (LEL): NA

UPPER (UEL): NA

EXTINGUISHING MEDIA: USE WATER, FOAM OR DRY POWDER, AS APPROPRIATE.

AUTO-IGNITION: NA

SPECIAL FIRE FIGHTING PROCEDURES: AS WITH ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS TO AVOID INHALATION OF HAZARDOUS DECOMPOSITION PRODUCTS (SEE SECTION 2).

SPECIAL FIRE EXPLOSION HAZARDS: LIKE ANY SEALED CONTAINER, BATTERY CELLS MAY RUPTURE WHEN EXPOSED TO EXCESSIVE HEAT; THIS COULD RESULT IN THE RELEASE OF FLAMMABLE OR CORROSIVE MATERIALS.

5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV) AND SOURCE: NA

EFFECTS OF OVEREXPOSURE: NONE. (IN FIRE OR RUPTURE SITUATION SEE SECTION 2 AND SECTION 4)

EMERGENCY FIRST AID PROCEDURES:

SKIN AND EYES: IN THE EVENT THAT BATTERY RUPTURES, FLUSH EXPOSED SKIN WITH COPIOUS QUANTITIES OF FLOWING LUKEWARM WATER FOR A MINIMUM OF 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION FOR EYES. WASH SKIN WITH SOAP AND WATER.

SWALLOWING: INGESTION OF A BATTERY CAN BE HARMFUL. CALL THE NATIONAL CAPITAL POISON CENTER (800-222-1222), DAY OR NIGHT, FOR ADVICE AND FOLLOW-UP.

FOR MORE INFORMATION, VISIT: HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

6. REACTIVITY DATA

STABLE OR UNSTABLE: STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NA

HAZARDOUS DECOMPOSITION PRODUCTS: NA

DECOMPOSITION TEMPERATURE (0 DEG. F): NA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: AVOID ELECTRICAL SHORTING.

7. SPILL OR LEAK PROCEDURES

PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS: IN THE EVENT OF A BATTERY RUPTURE, PREVENT SKIN CONTACT AND COLLECT ALL RELEASED MATERIAL IN A PLASTIC LINED METAL CONTAINER.

REPORTING PROCEDURE: REPORT ALL SPILLS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REPORTING REQUIREMENTS.

WASTE DISPOSAL METHOD: THESE BATTERIES CAN BE LANDFILLED IF ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS ARE COMPLIED WITH. FOR ADDITIONAL INFORMATION ON DISPOSAL OR RECYCLING OPTIONS, VISIT: HTTP://WWW.NEMA.ORG/GOV/EHS/COMMITTEES/DRYBAT/

8. PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NA

VENTILATION: LOCAL EXHAUST: NA MECHANICAL (GENERAL): NA SPECIAL: NA OTHER: NA

PROTECTIVE GLOVES: NA

EYE PROTECTION: NA

OTHER PROTECTIVE CLOTHING: NA

9. SPECIAL PRECAUTIONS

HANDLING AND STORAGE: STORE IN A DRY PLACE. STORING UNPACKAGED CELLS TOGETHER COULD RESULT IN CELL SHORTING AND HEAT BUILD-UP.

TRANSPORTATION-SHIPING: THESE ARE "BATTERIES, DRY" AND ARE NOT CONSIDERED TO BE A "HAZARDOUS MATERIAL" PER THE DEPT. OF TRANSPORTATION (USDOT) REGULATIONS OR "DANGEROUS GOODS" PER THE INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA) REGULATIONS. SHIPMENTS MUST COMPLY WITH THE GENERAL DUTY CLAUSE OF USDOT 49 CFR 172.102 (A) (1) SPECIAL PROVISION 130, "TO PREVENT SHORTING POTENTIAL WHILE TRANSPORTING."

10. SARA 313

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NOTICE: THE INFORMATION AND RECOMMENDATIONS SET FORTH ARE MADE IN GOOD FAITH AND ARE BELIEVED TO BE ACCURATE AT THE DATE OF PREPARATION. RAYOVAC CORPORATION MAKES NO WARRANTY EXPRESSED OR IMPLIED.

NA = NOT APPLICABLE

ITEM: 3HY54 - Lubricant Moly 11 Oz

PICK REQ: 1065481821

MATERIAL SAFETY DATA SHEET (MSDS)

MSDS: B3189

This MSDS should be attached or kept with the respective product with which it is associated.

MATERIAL SAFETY DATA SHEET - B3189

Associated Grainger Item: 3HY54 - Lubricant Moly 11 Oz

LPS(R*)
MATERIAL SAFETY DATA SHEET

LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT (AEROSOL)

REVISION: 3
REVISION DATE: 03/14/2008
SUPERCEDES: 12/27/2005

SECTION 1 - IDENTIFICATION

PRODUCT NAME: LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT (AEROSOL)
PART NUMBER: 02416, C02416
CHEMICAL NAME: ALIPHATIC AND OXYGENATED HYDROCARBON MIXTURE

PRODUCT USE:
A SPRAY LUBRICANT DESIGNED TO PENETRATE CHAINS AND WIRE ROPES, DISPLACE MOISTURE AND PROVIDE LONG LASTING LUBRICATION UNDER HIGH LOADS AND HUMID CONDITIONS.

MANUFACTURER INFORMATION:
LPS LABORATORIES
4647 HUGH HOWELL RD.
TUCKER, GA, 30084
USA

TEL: 1 770-243-8880

EMERGENCY TELEPHONE NUMBER: 1-800-424-9300 CHEMTREC;
OUTSIDE U.S.: (703) 527-3887

FAX: 1 770-243-8899

WEBSITE: HTTP://WWW.LPSLABS.COM

PLAIN LANGUAGE HAZARD SUMMARY:
MATERIAL SAFETY DATA SHEETS CAN BE CONFUSING. FEDERAL AND STATE LAWS REQUIRE US TO INCLUDE A GREAT DEAL OF TECHNICAL INFORMATION THAT PROBABLY WON'T HELP THE NON-PROFESSIONAL. LPS INCLUDES THIS "PLAIN LANGUAGE HAZARD SUMMARY" TO ADDRESS THE QUESTIONS AND CONCERNS OF THE AVERAGE WORKER. IF YOU HAVE ADDITIONAL HEALTH, SAFETY OR PRODUCT QUESTIONS, DON'T HESITATE TO CALL US AT 800/241-8334.

WORKER TOXICITY:
LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT IS A MOLY-FORTIFIED LUBRICANT DESIGNED TO PENETRATE CHAINS AND WIRE ROPES, DISPLACE MOISTURE AND PROVIDE LONG LASTING LUBRICATION UNDER HIGH LOADS AND HUMID CONDITIONS. IT CONTAINS ISOHEXANE AND ISOPROPYL ALCOHOL WHICH CAN BE IRRITATING TO SKIN AT A MINIMUM AND IF HANDLED IMPROPERLY CAN BE DANGEROUS. WE SUGGEST YOU WEAR GLOVES AND AVOID EXTENDED EXPOSURE TO UNPROTECTED SKIN. DON'T GET IT IN YOUR EYES (IT STINGS), OR BREATHE LARGE AMOUNTS OF THE VAPOR, (IT WILL DRY OUT YOUR NASAL PASSAGES AND IF YOU BREATHE LARGE AMOUNTS IN POORLY VENTILATED AREAS IT CAN MAKE YOU DIZZY AND EVEN SICK). DON'T SPRAY LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT FOR EXTENDED PERIODS WITHOUT ADEQUATE VENTILATION. IF YOU'RE GOING TO PERFORM WORK INVOLVING A LOT OF PRODUCT IN A POORLY VENTILATED AREA, USE OF A RESPIRATOR OR EVEN A SELF-CONTAINED BREATHING APPARATUS MAY BE NECESSARY. FOR MORE EXPOSURE AND FIRST AID INFORMATION, REFER TO MSDS SECTIONS 2, 8 AND 11.

FLAMMABILITY:
LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT IS EXTREMELY FLAMMABLE, HAVING A FLASH POINT BELOW (-11 DEG. C). DO NOT SPRAY ONTO LIVE ELECTRICAL EQUIPMENT OR IN OR AROUND IGNITION SOURCES. STORE PRODUCT AWAY FROM HEAT SOURCES. ALSO, DON'T SPRAY THE PRODUCT ONTO RED-HOT METAL SURFACES.

DISPOSAL:
LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT NORMALLY CANNOT BE SPILLED, BUT IF THE AEROSOL CAN IS DROPPED FROM SEVERAL FEET OR CRUSHED IT MAY DISCHARGE ITS CONTENTS. A SINGLE AEROSOL CAN OF LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT CONTAINS LESS THAN ONE PINT OF MATERIAL AND MUCH OF THIS WILL EVAPORATE QUICKLY. IF A SPILL OCCURS, THE TWO GREATEST CONCERNS ARE FLAMMABILITY OF THE FAST DRYING VAPORS AND SLIPPERINESS OF WALKING SURFACES IN THE AFFECTED AREA. NOTIFY THE PROPER ENVIRONMENTAL AND SAFETY PERSONNEL AT YOUR COMPANY RIGHT AWAY. ABSORB SPILLED MATERIAL WITH A SUITABLE SOLID LIKE SAND OR "KITTY LITTER" AND PLACE INTO AN APPROPRIATE WASTE CONTAINER. IF AN AEROSOL CAN OF LPS CHAINMATE CHAIN & WIRE ROPE LUBRICANT DOES NOT SPRAY AND HAS MORE THAN AN INCH OF MATERIAL INSIDE, IT WILL BE CONSIDERED A FLAMMABLE HAZARDOUS WASTE UNDER U.S. EPA GUIDELINES. SEE SECTION 13 FOR MORE DETAILS.

SECTION 2 - HAZARDS IDENTIFICATION

THIS MATERIAL IS CONSIDERED HAZARDOUS BY THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200). THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CONTROLLED PRODUCTS REGULATIONS.

EMERGENCY OVERVIEW:

AEROSOL:

DANGER:
EXTREMELY FLAMMABLE. AEROSOL CONTENTS UNDER PRESSURE. HARMFUL OR FATAL IF SWALLOWED.

PRIMARY ROUTE(S) OF ENTRY: SKIN AND EYE CONTACT. INHALATION.

POTENTIAL ACUTE HEALTH EFFECTS:

EYES: IRRITATING TO EYES

SKIN: REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS OR CRACKING.

INHALATION:
EXCESSIVE INHALATION OF VAPORS CAN CAUSE IRRITATION OF THE RESPIRATORY TRACT, NAUSEA, DIZZINESS OR HEADACHE.

INGESTION:
PRODUCT HAS A LOW ORDER OF ACUTE ORAL TOXICITY, BUT INGESTION OF LARGE QUANTITIES MAY CAUSE NAUSEA, VOMITING, AND GASTROINTESTINAL IRRITATION. MAY CAUSE INJURY IF ASPIRATED INTO LUNGS.

POTENTIAL CHRONIC HEALTH EFFECTS:

CARCINOGENIC EFFECTS:

NTP: NO
OSHA: NO
ACGIH: NO

MUTAGENIC EFFECTS: NONE

TERATOGENIC EFFECTS:
THIS MATERIAL (OR COMPONENT) HAS BEEN SHOWN TO CAUSE HARM TO THE FETUS IN LABORATORY ANIMAL STUDIES. HARM TO THE FETUS OCCURS ONLY AT EXPOSURE LEVELS THAT HARM THE PREGNANT ANIMAL. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN.

TARGET ORGANS:
PROLONGED AND REPEATED EXPOSURE TO N-HEXANE MAY CAUSE PERIPHERAL NEUROPATHY BY DAMAGING PERIPHERAL NERVE TISSUE (THAT OF THE ARMS AND LEGS) AND RESULT IN MUSCULAR WEARNESS AND LOSS OF SENSATION. PROLONGED AND REPEATED INHALATION OF HIGH LEVELS OF MIXED ISOMERS OF HEXANE RESULTED IN KIDNEY DAMAGE IN MALE RATS. THE EFFECTS OBSERVED ARE THE SAME AS THOSE SEEN IN MALE RATS EXPOSED TO OTHER HYDROCARBONS. THE MECHANISM BY WHICH THESE CHEMICALS CAUSE THE CHARACTERISTIC KIDNEY TOXICITY IS UNIQUE TO THE MALE RAT AND THE KIDNEY EFFECTS ARE NOT EXPECTED TO OCCUR IN MAN. BREATHING ISOPROPANOL VAPORS HAS CAUSED DAMAGE TO THE LINING OF THE MIDDLE EAR IN EXPERIMENTAL ANIMALS. THE RELEVANCE OF THIS FINDING TO HUMANS IS UNCERTAIN. OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN LABORATORY ANIMALS: LIVER ABNORMALITIES, KIDNEY DAMAGE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
PERSONS WITH PRE-EXISTING CENTRAL NERVOUS SYSTEM (CNS) DISEASE, NEUROLOGICAL CONDITIONS, SKIN DISORDERS, CHRONIC RESPIRATORY DISEASES, OR IMPAIRED LIVER OR KIDNEY FUNCTION SHOULD AVOID EXPOSURE.

SIGNS AND SYMPTOMS:
STINGING IN EYES. REPEATED OR PROLONGED SKIN CONTACT CAN CAUSE REDNESS, IRRITATION, AND SCALING OF THE SKIN (DERMATITIS). BREATHING OF HIGH VAPOR CONCENTRATIONS MAY CAUSE HEADACHES, STUPOR, IRRITATION OF THROAT AND EYES, AND KIDNEY EFFECTS.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Table with 3 columns: INGREDIENT NAME, CASRN, WEIGHT PERCENT. Lists ingredients like PETROLEUM OIL, PROPANE/ISOBUTANE BLEND, 2-METHYLPENTANE, etc.

SECTION 4 - FIRST AID MEASURES

EYES:
CHECK FOR AND REMOVE CONTACT LENSES. IF IRRITATION OR REDNESS DEVELOPS, FLUSH EYES WITH COOL, CLEAN, LOW PRESSURE WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS APART TO ENSURE COMPLETE IRRIGATION OF THE EYE AND EYELID TISSUE. DO NOT USE EYE OINTMENT. SEEK MEDICAL ATTENTION IMMEDIATELY.

SKIN:
REMOVE CONTAMINATED SHOES AND CLOTHING. CLEAN AFFECTED AREA THOROUGHLY WITH MILD SOAP AND WATER. DO NOT USE OINTMENTS. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS.

INHALATION:
IMMEDIATELY MOVE VICTIM TO FRESH AIR. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN RESCUE BREATHING. IF HEART HAS STOPPED, IMMEDIATELY BEGIN CARDIOPULMONARY RESUSCITATION (CPR). IF BREATHING IS DIFFICULT, SEEK MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
DO NOT INDUCE VOMITTING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF SPONTANEOUS VOMITTING IS ABOUT TO OCCUR, PLACE VICTIM'S HEAD BELOW KNEES. IF VICTIM IS DROWSY OR UNCONSCIOUS, PLACE ON THE LEFT SIDE WITH HEAD DOWN. DO NOT LEAVE VICTIM UNATTENDED. SEEK MEDICAL ATTENTION IMMEDIATELY.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT:
TCC CLOSED CUP: <-17 DEG. C (-0 DEG. F) BULK LIQUID

FLAMMABLE LIMITS:

LOWER: 0.5%
UPPER: 7.0%

AUTO IGNITION TEMPERATURE: 306 DEG. C (582.8 DEG. F)

PRODUCTS OF COMBUSTION: CARBON MONOXIDE AND CARBON DIOXIDE.

GENERAL FIRE HAZARDS:

THIS ITEM IS A HIGHLY FLAMMABLE AEROSOL. HIGH HEAT WILL CAUSE EXPLOSIVE RUPTURE OF CONTAINERS AND THE RAPID SPREAD OF FIRE.

FIREFIGHTING MEDIA:

SMALL FIRE: USE DRY CHEMICAL POWDER.

LARGE FIRE:

USE WATER SPRAY, FOG OR FOAM. COOL CONTAINING VESSELS WITH WATER JET IN ORDER TO PREVENT PRESSURE BUILD-UP, AUTO IGNITION OR EXPLOSIONS.

SENSITIVITY TO IMPACT: NONE.

SENSITIVITY TO STATIC DISCHARGE: SEE SECTIONS 6, 7, 8 AND 15.

PROTECTION CLOTHING (FIRE):

WEAR PROTECTIVE CLOTHING AND EQUIPMENT SUITABLE FOR THE SURROUNDING FIRE, INCLUDING HELMET, FACE MASK, AND SELF-CONTAINED BREATHING APPARATUS.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT PROCEDURES:

SMALL SPILL AND LEAK:

ELIMINATE IGNITION SOURCES. ABSORB WITH AN INERT MATERIAL AND DISPOSE OF PROPERLY.

LARGE SPILL AND LEAK:

ELIMINATE IGNITION SOURCES, SECURE THE AREA AND CONTROL ACCESS. DIKE FAR AHEAD OF A LIQUID SPILL TO ENSURE COMPLETE COLLECTION. PICK UP FREE LIQUID FOR DISPOSAL USING ABSORBENT PADS, SAND, OR OTHER INERT NON-COMBUSTIBLE ABSORBENT MATERIALS. PLACE INTO APPROPRIATE WASTE CONTAINERS FOR LATER DISPOSAL.

CLEAN-UP PROCEDURES:

WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (RESPIRATORY PROTECTION, SOLVENT RESISTANT GLOVES). ABSORB SPILL WITH AN INERT MATERIAL SUCH AS CLAY, VERMICULITE OR DIATOMACEOUS EARTH. PLACE SLURRY IN AN APPROVED CHEMICAL WASTE CONTAINER FOR DISPOSAL. WASH SPILL AREA WITH DETERGENT AND WATER. BEFORE DISCHARGING RINSE WATER TO SANITARY SEWER SYSTEM, CONSULT LOCAL REGULATIONS.

EVACUATION PROCEDURES:

VENTILATE AREA OF LEAK OR SPILL. KEEP UNNECESSARY AND UNPROTECTED PEOPLE AWAY.

SPECIAL PROCEDURES:

REMOVE ALL SOURCES OF IGNITION. VENTILATE AREA. WEAR APPROPRIATE PROTECTIVE EQUIPMENT DURING CLEANUP.

SECTION 7 - HANDLING AND STORAGE

HANDLING:

DO NOT SPRAY INTO OR AROUND IGNITION SOURCES. AFTER HANDLING, ALWAYS WASH HANDS THOROUGHLY WITH SOAP AND WATER. USE ONLY WITH ADEQUATE VENTILATION. AVOID BREATHING VAPORS OR SPRAY MISTS.

STORAGE:

KEEP CONTAINER CLOSED AND IN A COOL, WELL-VENTILATED AREA. AVOID ALL SOURCES OF IGNITION (SPARK OR FLAME). STORE BELOW 120 DEG. F. STORE AEROSOLS AS LEVEL 3 AEROSOL (NFPA 30B).

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

STORE ALL MATERIALS IN DRY, WELL-VENTILATED AREA. AVOID BREATHING VAPORS. GROUND AND BOND CONTAINERS BEFORE TRANSFERRING MATERIALS.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

| INGREDIENTS | CASRN | | | | |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| PETROLEUM OIL | 64742-01-4 | | | | |
| PROPANE/ISOBUTANE BLEND | 68476-85-7 | | | | |
| 2-METHYLPENTANE* | 107-83-5 | | | | |
| 3-METHYLPENTANE* | 96-14-0 | | | | |
| 2,3-DIMETHYLBUTANE* | 79-29-8 | | | | |
| 2,2-DIMETHYLBUTANE* | 75-83-2 | | | | |
| ISOPROPANOL* | 67-63-0 | | | | |
| n-HEXANE* | 110-54-3 | | | | |
| PETROLEUM OIL | 64741-88-4 | | | | |
| INGREDIENTS | OSHA TWA-PEL | OSHA STEL | ACGIH-TLV | ACGIH-STEL | NIOSH REL |
| PETROLEUM OIL | NOT ESTABLISHED |
| PROPANE/ISOBUTANE BLEND | 1000 PPM | NOT ESTABLISHED | 1000 PPM | NOT ESTABLISHED | 350 MG/MG |
| 2-METHYLPENTANE* | 500 PPM | 1000 PPM | 500 PPM | 1000 PPM | 100 PPM |
| 3-METHYLPENTANE* | 500 PPM | 1000 PPM | 500 PPM | 1000 PPM | 100 PPM |
| 2,3-DIMETHYL- | 500 PPM | 1000 PPM | 500 PPM | 1000 PPM | 100 PPM |

BUTANE*

| | | | | | |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 2,2-DIMETHYLBUTANE* | 500 PPM | 1000 PPM | 500 PPM | 1000 PPM | 100 PPM |
| ISOPROPANOL* | 400 PPM | NOT ESTABLISHED | 200 PPM | 1000 PPM | 400 PPM |
| n-HEXANE* | 500 PPM | NOT ESTABLISHED | 50 PPM | NOT ESTABLISHED | 50 PPM |
| PETROLEUM OIL | NOT ESTABLISHED |

*NOTE: EXPOSURE GUIDELINES PROVIDED BY SUPPLIER.

ENGINEERING MEASURES:

PROVIDE LOCAL EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATIONS OF VAPORS BELOW THEIR RESPECTIVE OCCUPATIONAL EXPOSURE LIMITS.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION:

SAFETY GLASSES WITH SIDE SHIELDS CONFORMING TO APPROPRIATE REGULATIONS. EYE WASH FOUNTAIN AND EMERGENCY SHOWER FACILITIES ARE RECOMMENDED.

HAND PROTECTION:

NORMALLY NO HAND PROTECTION IS REQUIRED; HOWEVER, IF PRODUCT WILL BE SPRAYED FOR AN EXTENDED PERIOD, "OVERSPRAY" ONTO SKIN MAY OCCUR. IF SO, USE PROTECTIVE GLOVES CONFORMING TO APPROPRIATE REGULATIONS. PLEASE OBSERVE THE INSTRUCTIONS REGARDING PERMEABILITY AND BREAKTHROUGH TIME THAT ARE PROVIDED BY THE SUPPLIER OF THE GLOVES. TAKE INTO CONSIDERATION THE SPECIFIC LOCAL CONDITIONS UNDER WHICH THE PRODUCT IS USED, SUCH AS THE DANGER OF CUTS, ABRASION AND THE CONTACT TIME.

RESPIRATORY PROTECTION:

IF AIRBORNE CONCENTRATIONS ARE ABOVE THE APPLICABLE EXPOSURE LIMITS (LISTED ABOVE), USE NIOSH APPROVED RESPIRATORY PROTECTION.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: LIQUID.

COLOR: DARK GRAY / BLACK

ODOR/TASTE: CHARACTERISTIC

EVAPORATION RATE: <1 (ETHYL ETHER = 1)

SOLUBILITY DESCRIPTION: <5% BY WEIGHT.

FLASH POINT (DEG. C): <-17 DEG. C

ODOR THRESHOLD: NOT DETERMINED.

DECOMPOSITION TEMPERATURE: NOT DETERMINED.

BOILING POINT (DEG. C): 60.5 @ 101 KPA

FLASH POINT METHOD: TOC

SPECIFIC GRAVITY (WATER=1): 0.74-0.76 @ 20 DEG. C

AUTO IGNITION TEMPERATURE (DEG. C): 306 DEG. C.

VAPOR DENSITY (AIR=1): APPROX. 3.0

PARTITION COEFFICIENT (OCTANOL/WATER): <1

VAPOR PRESSURE: 47 KPA @ 38 DEG. C

pH: NOT APPLICABLE

VOLATILES: 55%

FLAMMABLE LIMITS (ESTIMATED):

LOWER: 0.6%

UPPER: 7%

VISCOSITY: <14 MM2/SEC. @ 25 DEG. C

V.O.C. CONTENT: 45%, 338 G/L

MELTING POINT (DEG. C): NOT APPLICABLE

SECTION 10 - CHEMICAL STABILITY AND REACTIVITY

CHEMICAL STABILITY: PRODUCT IS STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

CONDITIONS TO AVOID:

KEEP AWAY FROM HEAT AND IGNITION SOURCES. EXPOSURE TO DIRECT SUNLIGHT FOR EXTENDED PERIODS. TEMPERATURES IN EXCESS OF 50 DEG. C.

INCOMPATIBILITY: EXTREMELY REACTIVE OR INCOMPATIBLE WITH OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION:

COMBUSTION WILL GENERATE SMOKE, POSSIBLY THICK AND CHOKING, RESULTING IN ZERO VISIBILITY AND COMBUSTION PRODUCTS INCLUDE CARBON MONOXIDE AND CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SECTION 11 - TOXICOLOGICAL INFORMATION

A:

GENERAL PRODUCT INFORMATION:

AN ACUTE TOXICITY STUDY OF THIS PRODUCT HAS NOT BEEN CONDUCTED. INFORMATION GIVEN IN THIS SECTION RELATES ONLY TO INDIVIDUAL CONSTITUENTS CONTAINED IN THIS PREPARATION.

| INGREDIENTS | CASRN | LC-50 | LD-50 |
|-------------------|------------|-----------------|-----------------|
| PETROLEUM OIL | 64742-01-4 | NOT ESTABLISHED | NOT ESTABLISHED |
| PROPANE/ISOBUTANE | 68476-85-7 | >3125 PPM / | NOT ESTABLISHED |

| BLEND | 4 HOURS/RAT | | | |
|---------------------|-------------|--------------------|----------------------|---------------|
| 2-METHYLPENTANE* | 107-83-5 | 3125 PPM | NOT AVAILABLE | NOT AVAILABLE |
| | | INHALATION/RAT/4H* | | |
| 3-METHYLPENTANE* | 96-14-0 | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |
| 2,3-DIMETHYLBUTANE* | 79-29-8 | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |
| 2,2-DIMETHYLBUTANE* | 75-83-2 | NOT AVAILABLE | NOT AVAILABLE | NOT AVAILABLE |
| ISOPROPANOL* | 67-63-0 | 16000 PPM | 5045 MG/KG ORAL/RAT* | |
| | | INHALATION/RAT/4H* | 5030 - 7900 MG/KG | |
| | | | DERMAL/RABBIT* | |
| n-HEXANE* | 110-54-3 | 48000 PPM* | 25 G/KG ORAL/RAT* | |
| | | INHALATION/RAT/4H* | 1.3 G/KG | |
| | | | DERMAL/RABBIT* | |
| PETROLEUM OIL | 64741-88-4 | NOT ESTABLISHED | NOT ESTABLISHED | |

SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL STUDIES HAVE NOT BEEN CONDUCTED FOR THIS PRODUCT. THE FOLLOWING INFORMATION IS AVAILABLE FOR COMPONENT(S) OF THIS PRODUCT.

ECOTOXICITY:

| EFFECT ON ORGANISMS | COMPONENT | CASRN | TEST | SPECIES | RESULTS |
|----------------------------|-------------------|----------|--------------|-----------------------------|-----------------------|
| ACUTE TOXICITY ON FISHES | n-HEXANE | 110-54-3 | 48-HR LC100 | LEUCISCUS IDUS MELANOTUS | 260,000 (MICRO)G/L |
| | ISOPROPANOL | 67-63-0 | 24-HR LC50 | CARASSIUS AURATUS | 5,000,000 (MICRO)G/L |
| | 2-METHYL-PENTANE | 107-83-5 | 48-HOUR EC50 | DAPHNIA MAGNA | 2.1 MG/L |
| ACUTE TOXICITY ON DAPHNIA | n-HEXANE | 110-54-3 | 24-HR LC50 | DAPHNIA MAGNA | 50,000 (MICRO)G/L |
| | ISOPROPANOL | 67-63-0 | 24-HR LC50 | DAPHNIA MAGNA | 10,000,000 (MICRO)G/L |
| BACTERIAL INHIBITION | NO DATA AVAILABLE | | | | |
| GROWTH INHIBITION OF ALGAE | n-HEXANE | 110-54-3 | EC50 | ANABAENA INAEQUALIS | 1.70% |
| | ISOPROPANOL | 67-63-0 | 48-HOUR EC50 | SCENEDESMUS QUADRICAUDA | 1,800,000 (MICRO)G/L |

BIOACCUMULATION IN FISH NO DATA AVAILABLE

MOBILITY: SEMI-VOLATILE. READILY ABSORBED INTO SOIL.

PERSISTENCE AND DEGRADABILITY: ONLY SLIGHTLY BIODEGRADABLE.

BIOACCUMULATIVE POTENTIAL: MINIMAL BIOACCUMULATION POTENTIAL

OTHER ADVERSE EFFECTS: NONE KNOWN.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE STATUS:
AEROSOL PRODUCTS, IF DEPRESSURIZED AND EMPTIED TO LESS THAN 2.5 CM OF FLUID CONTENTS ARE CLASSIFIED AS NON-HAZARDOUS WASTE UNDER 40 CFR 261.7 (U.S.). IF DISPOSED OF IN ITS RECEIVED FORM, THIS ITEM CARRIES WASTE CODES D001 AND D003. (U.S.)

DISPOSAL:
WASTE MUST BE DISPOSED OF IN ACCORDANCE WITH NATIONAL, REGIONAL AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS.

NOTE:
CHEMICAL ADDITIONS TO, PROCESSING OF, OR OTHERWISE ALTERING THIS MATERIAL MAY MAKE THIS WASTE MANAGEMENT INFORMATION INACCURATE, INCOMPLETE, OR OTHERWISE INAPPROPRIATE. FURTHERMORE, STATE AND LOCAL WASTE DISPOSAL REQUIREMENTS MAY BE MORE RESTRICTIVE THAN FEDERAL LAWS AND REGULATIONS.

SECTION 14 - TRANSPORT INFORMATION

D.O.T. GROUND:
SHIPPING NAME: CONSUMER COMMODITY
HAZARD CLASS: ORM-D
SUBCLASS: NA
UN NUMBER: NA
TECHNICAL NAME: NA
HAZARD LABEL: ORM-D

ROAD/RAIL - ADR/RID:
UN NO: 1950
CLASSIFICATION CODE: 5F
LABELING: 2.2
ADR CLASS: 2
SHIPPING NAME: AEROSOLS, FLAMMABLE
PACKING GROUP: NA

IMDG-IMO:
UN NO: 1950
SHIPPING NAME: AEROSOLS
EMS: F-D, S-U
CLASS: 2
PACKING GROUP: NA
PACKING INSTRUCTIONS: P003

IATA-ICAO:
UN NO: 1950
PROPER SHIPPING NAME: AEROSOLS, FLAMMABLE
CLASS: 2.1
LABELING: FLAMMABLE GAS

SECTION 15 - REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

RCRA HAZARDOUS WASTE NO.: D001, D003

COMPREHENSIVE ENVIRONMENTAL RESPONSE AND LIABILITY ACT OF 1980 (CERCLA):
n-HEXANE- 5000 POUNDS

TOXIC SUBSTANCES CONTROL ACT (TSCA):
ALL COMPONENTS OF THIS PRODUCT ARE TSCA INVENTORY LISTED AND/OR ARE EXEMPT.

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA) TITLE III:

SARA SECTION 311/312 (40 CFR 370) HAZARD CATEGORIES:
SUDDEN RELEASE OF PRESSURE, FIRE HAZARD, IMMEDIATE (ACUTE) HEALTH HAZARD, DELAYED (CHRONIC) HEALTH HAZARD.

THIS PRODUCT CONTAINS THE FOLLOWING TOXIC CHEMICAL(S) SUBJECT TO REPORTING REQUIREMENTS OF SARA SECTION 313 (40 CFR 372):

| COMPONENT | CAS NUMBER | MAXIMUM % |
|-----------|------------|-----------|
| n-HEXANE | 110-54-3 | 2% |

SECTION 112 HAZARDOUS AIR POLLUTANTS (HAPS): n-HEXANE

STATE REGULATIONS:

CALIFORNIA:
THIS PRODUCT CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR REPRODUCTIVE HARM.

CALIFORNIA AND OTC STATES: THIS PRODUCT CONFORMS TO CONSUMER REGULATIONS.

NEW JERSEY RIGHT TO KNOW:
PETROLEUM OIL 64742-01-4
2-METHYLPENTANE 107-83-5
PROPANE/ISOBUTANE BLEND 68476-85-7
3-METHYLPENTANE 96-14-0
2,3-DIMETHYLBUTANE 79-29-8
n-HEXANE 110-54-3

INTERNATIONAL REGULATIONS:

CANADIAN ENVIRONMENTAL PROTECTION ACT:
ALL OF THE COMPONENTS OF THIS PRODUCT ARE INCLUDED ON THE CANADIAN DOMESTIC SUBSTANCES LIST (DSL).

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM WHMIS:
THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CONTROLLED PRODUCTS REGULATIONS.

WHMIS CLASSIFICATION: CLASS A, CLASS B5, CLASS D2A, CLASS D2B

A - COMPRESSED GAS
B - FLAMMABLE AND COMBUSTIBLE MATERIAL
D2 - MATERIALS CAUSING OTHER TOXIC EFFECTS

OTHER REGULATIONS:
MONTREAL PROTOCOL LISTED INGREDIENTS: NONE.
STOCKHOLM CONVENTION LISTED INGREDIENTS: NONE.
ROTTERDAM CONVENTION LISTED INGREDIENTS: NONE.
ROHS COMPLIANT: YES.

SECTION 16 - OTHER INFORMATION

MSDS#: 13116

RESPONSIBLE NAME:
CLEA JOHNSON
REGULATORY AFFAIRS COORDINATOR

HMIS 1996:
HEALTH 1
FLAMMABILITY 3
REACTIVITY 0

HMIS III:
HEALTH 1*
FLAMMABILITY 4
PHYSICAL HAZARD 0

NFPA:
HEALTH 1
FLAMMABILITY 3
REACTIVITY 0

NOTICE TO READER:
TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED HEREIN IS ACCURATE. HOWEVER, NEITHER THE ABOVE NAMED SUPPLIER NOR ANY OF ITS SUBSIDIARIES ASSUMES ANY LIABILITY WHATSOEVER FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. FINAL DETERMINATION OF SUITABILITY OF ANY MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER. ALL MATERIALS MAY PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION. ALTHOUGH CERTAIN HAZARDS ARE DESCRIBED HEREIN, WE CANNOT GUARANTEE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

CLEA L JOHNSON, REGULATORY AFFAIRS COORDINATOR
LPS LABORATORIES
A DIVISION OF ILLINOIS TOOL WORKS

TRU-TEST MFG CO -- XO-15 XO-RUST ENAMEL -- 8010-00F053862

===== Product Identification =====

Product ID:XO-15 XO-RUST ENAMEL
MSDS Date:01/28/1997
FSC:8010
NIIN:00F053862
Status Code:A
MSDS Number: CJZJY
=== Responsible Party ===
Company Name:TRU-TEST MFG CO
Address:201 JANDUS RD
City:CARY
State:IL
ZIP:60013
Country:US
Info Phone Num:708-639-5383
Emergency Phone Num:800-228-5635 EXT 017/847-639-5383
CAGE:3D277
=== Contractor Identification ===
Company Name:TRU-TEST MFG CO
Address:201 JANDUS RD
Box:City:CARY
State:IL
ZIP:60013
Country:US
Phone:708-639-5383
CAGE:3D277

===== Composition/Information on Ingredients =====

Ingred Name:MINERAL SPIRITS
CAS:64742-47-8
RTECS #:OA5504000
Minumum % Wt:23.
Maxumum % Wt:37.

Ingred Name:XYLENE
CAS:1330-20-7
RTECS #:ZE2100000
Minumum % Wt:1.
Maxumum % Wt:4.
ACGIH TLV:434 MG/M3;100 PPM
ACGIH STEL:651 MG/M3;150 PPM
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:CALCIUM BARIUM PHOSPHOSILICATE
CAS:66402-68-4
Minumum % Wt:1.
Maxumum % Wt:3.

Ingred Name:CARBON BLACK
CAS:1333-86-4
RTECS #:FF5800000
Minumum % Wt:1.
Maxumum % Wt:2.
OSHA PEL:3.5 MG/M3

ACGIH TLV:3.5 MG/M3

Ingred Name:CRYSTALLINE SILICA
 CAS:14464-46-1
 RTECS #:VV7325000
 Minimum % Wt:1.
 Maximum % Wt:3.
 OSHA PEL:SEE TABLE Z-3
 ACGIH TLV:0.05 MG/M3

Ingred Name:HYDROUS CALCIUM MAGNESIUM SILICATE
 CAS:14807-96-6
 RTECS #:WW2710000
 Minimum % Wt:5.
 Maximum % Wt:6.
 OSHA PEL:SEE TABLE Z-3
 ACGIH TLV:2 MG/M3

=====
 Hazards Identification
 =====

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
 Reports of Carcinogenicity:NTP:NO IARC:YES OSHA:NO
 Health Hazards Acute and Chronic:INHALATION: MODERATE IRRITATION TO LUNGS, NOSE & THROAT. PRODUCT CONTAINS CRYSTALLINE SILICA WHICH IS CONSIDERED A HAZARD. SKIN: MILD IRRITANT. EYES: IRRITATION. INGESTION: MODERATELY TOXIC IN LARGE AMOUNTS.
 Explanation of Carcinogenicity:THIS PRODUCT CONTAINS CRYSTALLINE SILICA & CARBON BLACK WHICH BOTH HAVE BEEN CLASSIFIED BY IARC BUT NOT NTP/OSHA REGARDING THEIR CARCINOGENICITY BASED ON LABORATORY ANIMAL STUDIES.
 Effects of Overexposure:IRRITATION, DIZZINESS, NAUSEA, FATIGUE, DRYING/CRACKING OF SKIN, REDNESS, STINGING, WATERING OF EYES, DROWSINESS, HEADACHE
 Medical Cond Aggravated by Exposure:PRE-EXISTING SKIN, EYES & RESPIRATORY DISORDERS.

=====
 First Aid Measures
 =====

First Aid:INHALATION: REMOVE TO FRESH AIR. USE CPR IF NECESSARY. SKIN: WASH W/SOAP & WATER. EYES: IMMEDIATELY FLUSH W/LARGE AMOUNTS OF WATER. INGESTION: GIVE 1-2 GLASSES OF WATER TO DILUTE. DON'T INDUCE VOMITING. OBTAIN MEDICAL ATTENTION IN ALL CASES.

=====
 Fire Fighting Measures
 =====

Flash Point:=40.6C, 105.F
 Lower Limits:0.9
 Extinguishing Media:FOAM, CO2, DRY CHEMICAL, WATER FOG
 Fire Fighting Procedures:USE SELF CONTAINED BREATHING APPARATUS W/FULL FACE MASK IN A POSITIVE PRESSURE DEMAND MODE. WATER SPRAY MAY BE INEFFECTIVE. IF WATER SPRAY IS USED. FOG NOZZLES ARE PREFERABLE. WATER MAY BE USED TO COOL SEALED CONTAINERS TO PREVENT PRESSURE BUILD UP & POSSIBLE EXPLOSION/AUTOIGNITION.
 Unusual Fire/Explosion Hazard:CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO HEAT. TREAT AS A VOLATILE LIQUID FIRE.

=====
 Accidental Release Measures
 =====

Spill Release Procedures:ELIMINATE ALL IGNITION SOURCES. CONTAIN LEAK, ABSORB LIQUID W/CLAY, SAND/FLOOR ABSORBENT. PREVENT RUNOFF TO

SEWERS, STREAMS/OTHER BODIES OF WATER.

=====
 ===== Handling and Storage =====

Handling and Storage Precautions:KEEP LIQUID & VAPOR AWAY FROM HEAT,
 SPARKS & OPEN FLAME. CLOSED CONTAINER AFTER EACH USE. STORE IN A
 COOL, DRY AREA. KEEP OUT OF REACH OF CHILDREN.

Other Precautions:REPEATED/PROLONGED OVEREXPOSURE TO SOLVENTS MAY CAUSE
 PERMANENT BRAIN & NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY
 DELIBERATELY CONCENTRATING & INHALING CONTENTS MAY BE
 HARMFUL/FATAL.

=====
 ===== Exposure Controls/Personal Protection =====

Respiratory Protection:WEAR A NIOSH/MSHA JOINTLY APPROVED AIR PURIFYING
 RESPIRATOR IF TLV LIMITS ARE EXCEEDED. APPROVED MECHANICAL FILTER
 TO REMOVE SOLID AIRBORNE PARTICLES OF OVERSPRAY DURING APPLICATION.

Ventilation:SUFFICIENT MECHANICAL GENERAL/LOCAL EXHAUST VENTILATION TO
 MAINTAIN EXPOSURE BELOW TLV.

Protective Gloves:SOLVENT RESISTANT

Eye Protection:SAFETY GLASSES W/SIDE SHEILDS

Other Protective Equipment:EYEWASH FOUNTAINS, SAFETY SHOWERS

Work Hygienic Practices:REMOVE/LAUNDER CONTAMINATED CLOTHING & SHOES
 BEFORE REUSE. WASH HANDS THOROUGHLY AFTER USE & BEFORE EATING,
 DRINKING/SMOKING.

Supplemental Safety and Health

CONTACT LENSES SHOULD NOT BE WORN.

=====
 ===== Physical/Chemical Properties =====

Boiling Pt:B.P. Text:300-380F

Vapor Density:>1

VOC Pounds/Gallon:380

Evaporation Rate & Reference:SLOWER THAN ETHER

Appearance and Odor:THICK LIQUID/ALIPHATIC ODOR

Percent Volatiles by Volume:45-51

=====
 ===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

STRONG OXIDIZING AGENTS.

Stability Condition to Avoid:HEAT, SPARKS, OPEN FLAME, TEMPS >120F &
 OTHER IGNITION SOURCES.

Hazardous Decomposition Products:CO, CO2 & UNIDENTIFIED ORGANIC
 COMPOUNDS

=====
 ===== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE W/LOCAL, STATE &
 FEDERAL REGULATIONS.

=====
 ===== Regulatory Information =====

State Regulatory Information:THIS PRODUCT CONTAINS CHEMICALS KNOWN TO
 THE STATE OF CALIFORNIA TO CAUSE CANCER & BIRTH DEFECTS/OTHER
 REPRODUCTIVE HARM.

=====
 ===== Other Information =====

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Revision Date: 05/16/2007

Issue date: 05/16/2007

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Clover Silicon Carbide Grease Mix
Product type: Sharpening compound
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 39439
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous components</u> | <u>%</u> | <u>ACGIH TLV</u> | <u>OSHA PEL</u> | <u>OTHER</u> |
|--------------------------------------|----------|--|---|--------------|
| Petroleum Distillates Proprietary | 30-60 | 5 mg/m ³ TWA (mist) 10mg/m ³ STEL (mist) | 5 mg/m ³ TWA (mist) | None |
| Silicon carbide 409-21-2 | 30-60 | 0.1 fiber/cm ³ TWA length >5 µm, aspect ratio ≥3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination 10 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica 3 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica | 15 mg/m ³ TWA total dust 5 mg/m ³ TWA respirable fraction | None |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS:

Physical state: Viscous liquid
Color: Grey
Odor: Mild petroleum

HEALTH: 1
FLAMMABILITY: 1
PHYSICAL HAZARD: 0
Personal Protection: See Section 8

CAUTION: MAY CAUSE EYE AND SKIN IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: Inhalation of mist or spray may cause irritation of the respiratory tract and nasal passages.
Skin contact: May cause skin irritation with discomfort or rash.
Eye contact: Mild eye irritation.
Ingestion: Not expected under normal conditions of use.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

Item No. : 39439

Product name: Clover Silicon Carbide Grease Mix

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

| | |
|----------------------|--|
| Inhalation: | Remove to fresh air. If discomfort persists seek medical attention. |
| Skin contact: | Wash with soap and water. Get medical attention if symptoms occur. |
| Eye contact: | In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| Ingestion: | If conscious, drink plenty of water. Never give anything by mouth to an unconscious person. If vomiting occurs, prevent aspiration by keeping the patient's head below the knees. Get medical attention if symptoms develop and persist. |

5. FIRE-FIGHTING MEASURES

| | |
|--|--|
| Flash point: | Greater than 93°C (200°F) Cleveland open cup |
| Autoignition temperature: | Not available |
| Flammable/Explosive limits-lower %: | Not available |
| Flammable/Explosive limits-upper %: | Not available |
| Extinguishing media: | Water spray (fog), foam, dry chemical or carbon dioxide. Do not use high volume water jet. |
| Special fire fighting procedures: | Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. |
| Unusual fire or explosion hazards: | None |
| Hazardous combustion products: | Oxides of carbon. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------------|---|
| Environmental precautions: | Contain spill. Prevent product from entering drains or open waters. Do not allow material to contaminate ground water system. |
| Clean-up methods: | Soak up with inert absorbent. Scrape up spilled material and place in a closed container for disposal. |

7. HANDLING AND STORAGE

| | |
|-------------------------------|--|
| Handling: | Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling. |
| Storage: | Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use. |
| Incompatible products: | None reasonably foreseeable. |

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|--------------------------------|---|
| Engineering controls: | Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits. |
| Respiratory protection: | Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respiratory use (29 CFR 1910.134). |

Item No. : 39439

Product name: Clover Silicon Carbide Grease Mix

Skin protection: Neoprene gloves.

Eye/face protection: Safety glasses with side-shields. Goggles.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Viscous liquid
Color: Grey
Odor: Mild petroleum
Vapor pressure: Not available
pH: Not applicable
Boiling point/range: 141-482°C (285-900°F)
Melting point/range: Not available
Specific gravity: 1.3548
Vapor density: Heavier than air
Evaporation rate: Less than butyl acetate.
Solubility in water: Not available
Partition coefficient (n-octanol/water): Not available
VOC content: Essentially Zero

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Oxides of carbon. Hydrocarbons. Acrid smoke and fumes.

Incompatibility: Strong oxidizing agents.

Conditions to avoid: Elevated temperatures.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen |
|--------------------------------------|----------------|-----------------|-----------------|
| Petroleum Distillates Proprietary | No | Group 1 | Yes |
| Silicon carbide 409-21-2 | No | No | No |

Literature Referenced Target Organ & Other Health Effects.

| Hazardous components | Health Effects/Target Organs |
|--------------------------------------|------------------------------|
| Petroleum Distillates Proprietary | Irritant |
| Silicon carbide 409-21-2 | Nuisance dust |

12. ECOLOGICAL INFORMATION

Ecological information: Not available

Item No. : 39439

Product name: Clover Silicon Carbide Grease Mix

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this section are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/MDG):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313: None above reporting de minimus.

California Proposition 65: This product contains a chemical known to the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 2, 11, 15

Prepared by:

C.J. Michaels, Manager, Regulatory Affairs

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.



Revision Date: 05/16/2007

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Clover Silicon Carbide Grease Mix
Product type: Sharpening compound
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 39452
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous components</u> | <u>%</u> | <u>ACGIH TLV</u> | <u>OSHA PEL</u> | <u>OTHER</u> |
|--------------------------------------|----------|--|---|--------------|
| Petroleum Distillates Proprietary | 30-60 | 5 mg/m ³ TWA (mist) 10mg/m ³ STEL (mist) | 5 mg/m ³ TWA (mist) | None |
| Silicon carbide 409-21-2 | 30-60 | 0.1 fiber/cm ³ TWA length >5 µm, aspect ratio ≥3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination 10 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica 3 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica | 15 mg/m ³ TWA total dust 5 mg/m ³ TWA respirable fraction | None |

3. HAZARDS IDENTIFICATION

| <u>EMERGENCY OVERVIEW</u> | |
|--|---|
| <u>HMIS:</u> | |
| Physical state: Viscous liquid | HEALTH: 1 |
| Color: Grey | FLAMMABILITY: 1 |
| Odor: Mild petroleum | PHYSICAL HAZARD: 0 |
| | Personal Protection: See Section 8 |
| CAUTION: MAY CAUSE EYE AND SKIN IRRITATION. | |

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

| | |
|----------------------|---|
| Inhalation: | Inhalation of mist or spray may cause irritation of the respiratory tract and nasal passages. |
| Skin contact: | May cause skin irritation with discomfort or rash. |
| Eye contact: | Mild eye irritation. |
| Ingestion: | Not expected under normal conditions of use. |

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

Item No. : 39452

Product name: Clover Silicon Carbide Grease Mix

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If discomfort persists seek medical attention.

Skin contact: Wash with soap and water. Get medical attention if symptoms occur.

Eye contact: In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: If conscious, drink plenty of water. Never give anything by mouth to an unconscious person. If vomiting occurs, prevent aspiration by keeping the patient's head below the knees. Get medical attention if symptoms develop and persist.

5. FIRE-FIGHTING MEASURES

Flash point: Greater than 93°C (200°F) Cleveland open cup

Autoignition temperature: Not available

Flammable/Explosive limits-lower %: Not available

Flammable/Explosive limits-upper %: Not available

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Do not use high volume water jet.

Special fire fighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: None

Hazardous combustion products: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Contain spill. Prevent product from entering drains or open waters. Do not allow material to contaminate ground water system.

Clean-up methods: Soak up with inert absorbent. Scrape up spilled material and place in a closed container for disposal.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapor and mist. Wash thoroughly after handling.

Storage: Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

Incompatible products: None reasonably foreseeable.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respiratory use (29 CFR 1910.134).

Item No. : 39452

Product name: Clover Silicon Carbide Grease Mix

Skin protection: Neoprene gloves.

Eye/face protection: Safety glasses with side-shields. Goggles.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Viscous liquid
Color: Grey
Odor: Mild petroleum
Vapor pressure: Not available
pH: Not applicable
Boiling point/range: 141-482°C (285-900°F)
Melting point/range: Not available
Specific gravity: 1.3548
Vapor density: Heavier than air
Evaporation rate: Less than butyl acetate.
Solubility in water: Not available
Partition coefficient (n-octanol/water): Not available
VOC content: Essentially Zero

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Oxides of carbon. Hydrocarbons. Acrid smoke and fumes.

Incompatibility: Strong oxidizing agents.

Conditions to avoid: Elevated temperatures.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

| Hazardous components | NTP Carcinogen | IARC Carcinogen | OSHA Carcinogen |
|--------------------------------------|----------------|-----------------|-----------------|
| Petroleum Distillates Proprietary | No | Group 1 | Yes |
| Silicon carbide 409-21-2 | No | No | No |

Literature Referenced Target Organ & Other Health Effects

| Hazardous components | Health Effects/Target Organs |
|--------------------------------------|------------------------------|
| Petroleum Distillates Proprietary | Irritant |
| Silicon carbide 409-21-2 | Nuisance dust |

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this section are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG):

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None
Marine pollutant: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard
CERCLA/SARA 313: None above reporting de minimus.

California Proposition 65: This product contains a chemical known to the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: 11, 15

Prepared by:

C.J. Michaels, Manager, Regulatory Affairs

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

NOTE: This MSDS is a discontinued item. Magnaflux does not update the MSDS for an obsolete product. This MSDS dated January 30, 1992 is the most recent MSDS available.

MATERIAL SAFETY DATA SHEET

SPOTCHECK® PENETRANT SKL-HF/S

1. **Company:** MAGNAFLUX
Address: 3624 West Lake Avenue, Glenview, Illinois 60025
Telephone No.: 847-657-5300 (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
Product Use: Visible inspection penetrant.
Packages: 1 gallon and 5 gallon pails, 20 and 55 gallon drums, 12 fluid ounce aerosols.
NFPA Rating: Health 1, Flammability 1, (Aerosol Flammability 4), Reactivity 0
PIN (Canada): None
Revision date: January 30, 1992

2. **HAZARDOUS INGREDIENTS**

Distillates (Petroleum), catalytic reformer fractionator residue; low boiling; CAS #68477-31-6; TLV not established, over 85%
Aerosol only: 30% Isobutane; CAS #75-28-5; OSHA PEL 1000 ppm, about 30%
Naphthalene; CAS #91-20-3; OSHA PEL 10 ppm, about 4%
Naphthalene is subject to the Reporting Requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
Contains no other ingredient suspected of being hazardous according to information sources given in 29 CFR 1910.1200, OSHA Hazard Communication Rule.

2. **HEALTH HAZARD**

Threshold Limit Value: OSHA PEL: for oily mist, 5 mg/m³
ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE:
Inhalation: Dizziness, nausea from inhalation of spray mist from can.
Skin contact: Irritation, dissolves skin oils. Possible dermatitis on frequent or prolonged exposure
Eye contact: Moderately irritating. Rinse eyes copiously with water.
Ingestion: Low toxicity, but hazardous if aspirated into lungs during ingestion or vomiting.
Carcinogenicity: Contains no known carcinogens listed with OSHA. The International Agency for Research on Cancer Monographs, or the National Toxicology Programs Annual Report on Carcinogens.
Medical conditions known to be aggravated by exposure to product: None

3. **FIRST AID**

Inhalation: Remove to fresh air. If not breathing, call emergency vehicle immediately. Give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
Skin Contact: Wash off in flowing water or shower. Remove contaminated clothes and wash before re-use. Use soothing lotion.
Eyes: Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle flow of water. Roll eyeball in all directions while flushing.
Ingestion: Do not induce vomiting. If vomit is inhaled, it may cause asphyxiation. Contact physician immediately.
IMPORTANT: **POISON CONTROL CENTER NUMBER**
In all severe cases, contact physician immediately. Local telephone operators are able to furnish number of regional poison control center to assist physician.

4. **FIRE HAZARD**

Flash point: Min. 200°F (93°C) Pensky-Martens (-100°F aerosol)
Flammable limits in air: Low 1%, High 6%
Extinguishing media: Carbon dioxide, foam
Special fire fighting procedures: Keep containers cool with water spray.
Unusual fire hazards: Aerosol cans may burst at temperatures over 130°F (54°C) and spray flammable liquid into the fire.

5. **REACTIVITY HAZARDS**

Stability: Stable, except when heated to burning temperatures
Incompatibility: Strong oxidizing agents.
Hazardous Decomposition Products: If burning, smoke, soot and oxides of carbon and nitrogen

MAGNAFLUX-A DIVISION OF ILLINOIS TOOL WORKS INC.
3624 WEST LAKE AVENUE, GLENVIEW, ILLINOIS 60025 PHONE 847.657.5300 FAX 847.657.5388



6. **REACTIVITY HAZARDS**

Stability: Stable, except when heated to burning temperatures
Incompatibility: Strong oxidizing agents.
Hazardous Decomposition Products: If burning, smoke, soot and oxides of carbon and nitrogen

7. **SAFE HANDLING PROCEDURES**

General: Do not breathe vapors. Significant exposure can result in dizziness and poor judgement with resulting danger to the victim and those around him. Much like ingesting too much alcohol.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin. Do not spray into flame, arcs, red hot surfaces or lighted, smoking materials, as spray may ignite.

Do not heat aerosol cans above 130°F to eliminate the possibility of their bursting and releasing unwanted spray.
Store away from heat sources to minimize the danger from exposure to fires.

Store pallets of aerosol cartons as Level 3 Aerosol (NFPA 30B).

Personal Protective Equipment: In poorly ventilated areas, such as small rooms with no windows, or in sumps or other low areas, the user should wear a respirator with chemical cartridge.

In confined, unventilated spaces, such as the inside of tanks or small compartments, the inspector should wear a full mask with separate air supply.

If hand exposure to SKL-HF/S is unavoidable, wear nitrile rubber gloves to avoid skin contact.

Wear full goggles if the application of SKL-HF/S includes splashing or the possibility of spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

Controls: It is preferred to use SKL-HF/S either in a spray booth or next to an exhaust vent.
General ventilation must be sufficient to keep the concentration low.

8. **DISPOSAL**

Spent Material, Mopped-Up Spills and Leaks: Incinerate or send to Waste Disposer who can incinerate it.
Aerosol Can: Empty out aerosol cans before disposal. Pressurized aerosol cans are not an acceptable waste.

9. **PHYSICAL PROPERTIES**

| | | | |
|--------------------------|---------------------------|--------------------------|--|
| <i>Boiling point:</i> | 400°F (-44°F for aerosol) | <i>Vapor pressure:</i> | Below 0.5 mm at 100°F (105 psi @ 75°F for aerosol) |
| <i>Percent volatile:</i> | None | <i>Vapor density:</i> | Over 1 |
| <i>Density:</i> | 0.97 | <i>Evaporation rate:</i> | None |
| <i>Water solubility:</i> | 0 | <i>Appearance:</i> | Dark red liquid |
| <i>pH:</i> | Neutral | | |

10. **DOT SHIPPING**

Shipping name: For Bulk - Liquid Stain
For Aerosol - Consumer commodity

Marking: For Bulk - None
For Aerosol - None

Hazard Class: For Bulk - None
For Aerosol - None

11. **CERTIFIED**

SKL-HF/S is composed entirely of materials listed in the TOSCA Chemical Substance Inventory.

Date: January 30, 1992
Supercedes MSDS dated Jan. 1, 1991

By: Bruce C. Graham, Chief Chemist

NOTE: This MSDS is a discontinued item. Magnaflux does not update the MSDS for an obsolete product. This MSDS, dated January 19, 1994 is the most recent MSDS available.

MATERIAL SAFETY DATA SHEET

SPOTCHECK® DEVELOPER SKD-NF



1. IDENTIFICATION

Company: MAGNAFLUX®
Address: 3624 West Lake Avenue, Glenview, Illinois 60025
Telephone No.: 847-657-5300 (Off-Hour Emergency Number - CHEMTREC - 1-800-424-9300).
Product Use: Penetrant inspection developer
Packages: 1 gallon can, 5 gallon pail, 55 gallon drum
NFPA Rating: Health 2, Flammability 0, Reactivity 1.
PI/N (Canada): UN 2831
Revision Date: January 19, 1994

2. HAZARDOUS INGREDIENTS

| <u>Ingredient</u> | <u>Wt./Wt. %</u> | <u>CAS #</u> | <u>TLV</u> | <u>PEL</u> | <u>LD₅₀</u> | <u>LC₅₀</u> |
|--|------------------|--------------|----------------------|---------------------|------------------------|------------------------|
| 1, 1, 1-Trichloroethane (methyl chloroform) | 60-100 | 71-55-6 | 350 ppm | 350 ppm | 10.3 g/kg (oral/rat) | 18000 ppm (41-rat) |
| Calcium carbonate | 5-10 | 471-31-1 | 10 mg/m ₃ | 5 mg/m ₃ | 6.4 g/kg (oral/rat) | Not avail. |
| Dimethoxymethane | 1-5 | 109-87-5 | 400 ppm | 400 ppm | 3.7 g/kg (oral/rat) | 15000 ppm (rat) |
| 2-Methyl-2-propanol | 0.5-1.5 | 75-65-0 | 100 ppm | 100 ppm | 3.5 g/kg (oral/rat) | Not avail. |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Volatile, nonflammable liquid. Vapors can cause unconsciousness at high concentration and can decompose to form toxic gases at flame temperatures.

POTENTIAL HEALTH EFFECTS

Skin Contact: Can irritate by removing natural skin oils on long or repeated exposures.
Eyes: Irritating, but does not damage eye tissue.
Inhalation: Causes dizziness, nausea, unconsciousness at high concentrations..
Ingestion: Low oral toxicity in test animals.
Medical conditions known to be aggravated by exposure to product: None

1. FIRST AID

Skin Contact: Wash off with soap and water. Use soothing lotion.
Eyes: Rinse carefully under upper and lower eyelids using plenty of water.
Inhalation: Remove to fresh air if dizzy or nauseated. If unconscious, call physician immediately.
Ingestion: Do not induce vomiting. Accidental ingestion of a single mouthful is not expected to cause significant harm.
NOTE: In all severe cases, contact physician immediately. Local telephone operators can furnish number of regional poison control center.

2. FIRE HAZARD

Conditions of flammability: Nonflammable
Flash point: None
Flammable limits in air: 10% to 15% with intense ignition source
Extinguishing media: None, self-extinguishing
Special fire fighting procedures: Keep containers cool with water spray.
Hazardous combustion products: Soot, oxides of carbon, phosgene and hydrochloric acid. (See Section 10).
Unusual fire hazards: None.

3. ACCIDENTAL RELEASE MEASURES

In case of large spill, evacuate area and have cleanup crew wear respiratory protection. (For disposal, see Section 13).

4. HANDLING AND STORAGE

Avoid breathing vapors.
Avoid eye contact.
Avoid repeated or prolonged skin contact.
Store away from heat source.
Do not spray around arcs or flame.

MAGNAFLUX-A DIVISION OF ILLINOIS TOOL WORKS INC.
3624 WEST LAKE AVENUE, GLENVIEW, ILLINOIS 60025 PHONE 847.657.5300 FAX 847.657.5388

5. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

Controls: Use where ventilation will carry vapors away from occupied areas.
Personal protection: Wear safety glasses to protect eyes. Wear nitrile rubber gloves if hand exposure is unavoidable.
Respirator with filter if sprayed in poorly ventilated area. Full mask with separate air supply in close, unventilated space.

6. **PHYSICAL PROPERTIES**

| | | | |
|--------------------------------------|--------------------------|--------------------------|-----------------------------|
| <i>Initial boiling point (bulk):</i> | 162°F (72°C) (ASTM D-86) | <i>Vapor pressure:</i> | Bulk: 230mm @ 100°F (38°C). |
| <i>Percent volatile:</i> | 90% | <i>Vapor density:</i> | 4 to 5 |
| <i>Density/sp. gravity:</i> | 1.3 | <i>Evaporation rate:</i> | 0.4 of ether |
| <i>Water solubility:</i> | 0 | <i>Appearance:</i> | White liquid |
| <i>pH:</i> | Neutral | <i>Odor:</i> | Ethereal odor |

7. **STABILITY AND REACTIVITY**

Stability: Partially decomposes in flames, arcs, red-hot surfaces
Incompatibility: Powdered zinc and powdered aluminum
Hazardous decomposition products: When burning, hydrochloric acid and phosgene
Reactivity: None

8. **TOXICOLOGICAL INFORMATION**

Carcinogenicity: Contains no known or suspected carcinogens listed with OSHA, IARC, NTP, or ACGIH.
Threshold limit value (Bulk): 350 ppm PEL
WHMIS information (Canada): According to available information, the ingredients have not been found to show reproductive toxicity, teratogenicity, mutagenicity, skin sensitization, or synergistic toxic effects with other materials.

9. **ECOLOGICAL INFORMATION**

No data is available on SKD-NF. It is a Class 1 ozone depleter but not a VOC.

10. **DISPOSAL**

Send to a licensed waste facility for proper disposal.
RCRA: Hazardous waste.
U.S. EPA Waste Number: F002

11. **TRANSPORTATION**

U.S. DOT: 49 CFR 172.101 Hazardous Materials Table

| | |
|----------------------------------|-----------------------|
| | <u>Bulk</u> |
| <i>Proper shipping name:</i> | 1,1,1-Trichloroethane |
| <i>Hazard class or division:</i> | 6.1 |
| <i>Identification No.:</i> | UN2831 |
| <i>Packing Group:</i> | III |

12. **REGULATORY INFORMATION**

TSCA: All ingredients are listed in TSCA inventory.
CERCLA: Reportable quantity (RQ) for 1,1,1-Trichloroethane = 1000 lbs.
SARA TITLE III, Section 313: 1,1,1-Trichloroethane
California Proposition 65: Contains nothing on this list
WHMIS Class (Canada): Bulk: D-2B
Note: This MSDS has been prepared to meet WHMIS (Canada) requirements with the exception of using 16 headings.

13. **OTHER INFORMATION**

Revision Statement: Section 2. Revised hazardous ingredients.
Supersedes: MSDS dated 1/1/94

Signed by: Cheri A. Zeleznik, Project Manager

Product Name: MOBIL ALMO 525
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MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL ALMO 525
Product Description: Base Oil and Additives
Product Code: 603183-00, 970924
Intended Use: Lubricant

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency 609-737-4411
Transportation Emergency Phone 800-424-9300
ExxonMobil Transportation No. 281-834-3296
MSDS Requests 713-613-3661
Product Technical Information 800-662-4525, 800-947-9147
MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

No Reportable Hazardous Substance(s) or Complex Substance(s).

SECTION 3 HAZARDS IDENTIFICATION

This material may be considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

This product may be used in certain applications where misting can occur. Excessive exposure to liquids and mists may cause skin and eye irritation. In addition, excessive exposure to mists may cause respiratory irritation and damage and aggravate pre-existing emphysema or asthma. Low order of toxicity. High-pressure injection under skin may cause serious damage.

| | | | |
|-----------------|-----------|-----------------|---------------|
| NFPA Hazard ID: | Health: 0 | Flammability: 1 | Reactivity: 0 |
| HMIS Hazard ID: | Health: 0 | Flammability: 1 | Reactivity: 0 |

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use

Product Name: MOBIL ALMO 525
Revision Date: 10Nov2005
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adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurized mists may form a flammable mixture.

Hazardous Combustion Products: Aldehydes, Oxides of carbon, Smoke, Fume, Sulfur oxides, Incomplete combustion products

FLAMMABILITY PROPERTIES

Flash Point [Method]: >188°C (370°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

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SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Report spills as required to appropriate authorities. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid breathing mists or vapors. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

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Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation. Particulate air-purifying respirator approved for dust / oil mist is recommended.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended. Chemical type goggles should be worn during misting operations.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State: Liquid
Color: Amber
Odor: Characteristic
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.883
Flash Point [Method]: >188°C (370°F) [ASTM D-92]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 316°C (600°F)
Vapor Density (Air = 1): > 2 at 101 kPa

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Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20°C
 Evaporation Rate (n-butyl acetate = 1): N/D
 pH: N/A
 Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
 Solubility in Water: Negligible
 Viscosity: 46 cSt (46 mm²/sec) at 40 °C | 7.3 cSt (7.3 mm²/sec) at 100°C
 Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D
 Melting Point: N/A
 Pour Point: -24°C (-11°F)
 DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.
CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.
MATERIALS TO AVOID: Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

| Route of Exposure | Conclusion / Remarks |
|---|--|
| Inhalation | |
| Toxicity (Rat): LC50 > 5000 mg/m ³ | Minimally Toxic. Based on test data for structurally similar materials. |
| Irritation: No end point data. | Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs. Based on assessment of the components. |
| Ingestion | |
| Toxicity (Rat): LD50 > 2000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. |
| Skin | |
| Toxicity (Rabbit): LD50 > 2000 mg/kg | Minimally Toxic. Based on test data for structurally similar materials. |
| Irritation (Rabbit): Data available. | Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials. |
| Eye | |
| Irritation (Rabbit): Data available. | May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials. |

CHRONIC/OTHER EFFECTS
 For the product itself:

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Oil Mist (highly refined oils): Animals exposed to high concentrations of mist developed oil retention, inflammation, and oil granulomas in the respiratory tract. Oils exposed to high temperatures, cracking conditions, or mixing with tramp / used oils may introduce polycyclic aromatic compounds or microbial contaminants that could result in cancer or severe respiratory hazards.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

| | | |
|--------------|-------------------------------|---------------|
| | --REGULATORY LISTS SEARCHED-- | |
| 1 = NTP CARC | 3 = IARC 1 | 5 = IARC 2B |
| 2 = NTP SUS | 4 = IARC 2A | 6 = OSHA CARC |

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity or reactivity and is not formulated with

Product Name: MOBIL ALMO 525
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contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: Under some use conditions, this material may be considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, ENCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

| Chemical Name | CAS Number | Typical Value |
|----------------|------------|---------------|
| CHLORO ALKANES | 61788-76-9 | 1 - 5% |

The Following Ingredients are Cited on the Lists Below:

| Chemical Name | CAS Number | List Citations |
|---|------------|----------------|
| CHLORINE (ELEMENTAL ANALYSIS) | 7782-50-5 | 1, 4 |
| PHOSPHORODITHOIC ACID, O,O-DI C1-14-ALKYL ESTERS, ZINC SALTS (2:1) (ZDDP) | 68649-42-3 | 15 |

--REGULATORY LISTS SEARCHED--

Product Name: MOBIL ALMO 525
Revision Date: 10Nov2005
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| | | | |
|---------------|------------------|-------------------|-------------|
| 1 = ACGIH ALL | 6 = TSCA 5a2 | 11 = CA P65 REPRO | 16 = MN RTK |
| 2 = ACGIH A1 | 7 = TSCA 5e | 12 = CA RTK | 17 = NJ RTK |
| 3 = ACGIH A2 | 8 = TSCA 6 | 13 = IL RTK | 18 = PA RTK |
| 4 = OSHA Z | 9 = TSCA 12b | 14 = LA RTK | 19 = RI RTK |
| 5 = TSCA 4 | 10 = CA P65 CARC | 15 = MI 293 | |

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

No revision information is available.

PRECAUTIONARY LABEL TEXT:

Caution! Excessive exposure to mist may cause skin and eye irritation. In addition, excessive exposure to mist may cause respiratory irritation and damage, and aggravate pre-existing emphysema and asthma. Use with adequate ventilation. If inhaled and symptoms develop, remove to fresh air and get medical attention.

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PPEC: A

DGN: 2008031XUS (545270)

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NATIONAL ENGINEERING PRODUCTS INC -- COPALTITE -- 8030-00-246-0931

===== Product Identification =====

Product ID:COPALTITE
MSDS Date:04/10/1996
FSC:8030
NIIN:00-246-0931
Status Code:A
MSDS Number: CJZSZ
=== Responsible Party ===
Company Name:NATIONAL ENGINEERING PRODUCTS INC
Address:5110 RIDGEFIELD RD SUITE 411
City:BETHESDA
State:MD
ZIP:20816
Country:US
Info Phone Num:202-526-6274
Emergency Phone Num:202-526-6274
CAGE:76641

=== Contractor Identification ===
Company Name:NATIONAL ENGINEERING PRODUCTS INC
Address:5110 RIDGEFIELD RD SUITE 411
Box:City:BETHESDA
State:MD
ZIP:20816
Country:US
Phone:202-526-6274
CAGE:76641

===== Composition/Information on Ingredients =====

Ingred Name:FORMALDEHYDE
CAS:50-00-0
RTECS #:LP8925000
Fraction by Wt: .40%
OSHA PEL:0.75 PPM
ACGIH TLV:.9MG/M3
ACGIH STEL:2 PPM
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:METHANOL
CAS:67-56-1
RTECS #:PC1400000
Fraction by Wt: 8.83%
OSHA PEL:200 PPM
ACGIH TLV:260MG/M3
ACGIH STEL:262MG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:PHENOL
CAS:108-95-2
RTECS #:SJ3325000
Fraction by Wt: 2%
OSHA PEL:5 PPM
OSHA STEL:19MG/M3
ACGIH TLV:5 PPM

ACGIH STEL:19MG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:CRESOL
CAS:1319-77-3
RTECS #:G05950000
Fraction by Wt: 20%
OSHA PEL:5 PPM
OSHA STEL:22MG/M3
ACGIH TLV:5 PPM
ACGIH STEL:22MG/M3
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:BARIUM SULFATE
CAS:7727-43-7
RTECS #:CR0600000
Fraction by Wt: 2.5%
OSHA PEL:5/10 MG/M3
ACGIH TLV:10 MG/M3

=====
===== Hazards Identification =====

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO
Health Hazards Acute and Chronic:CRESOLS 5 PPM (OSHA PEL)
FORMALDEHYDE 0.75 PPM (OSHA PEL) METHANOL 200 (OSHA PEL)
Effects of Overexposure:SKIN: SEVERE IRRITATION, MARKED LOCAL REDNESS.
INHALATION DIZZINESS, DROWSINESS, TINGLING AND PAINS IN HANDS AND
ARMS. EYES: SEVERE IRRITATION, MARKED REDNESS AND SWELLING OF
CONJUNCTIVE AND CHEMI CAL BURNS OF THE CORNEA.
Medical Cond Aggravated by Exposure:ASTHMA - FROM INHALATION DERMATITIS
- FROM SKIN CONTACT.

=====
===== First Aid Measures =====

First Aid:IF INGESTED INDUCE VOMITING - CALL DOCTOR. SKIN - REMOVE
CONTAMINATED CLOTHING AND WASH SKIN WITH SOAP AND WATER. EYES:
FLUSH WITH WATER FOR 15 MINUTES AND SEE OPTHAMOLOGIST. INHALATION:
REMOVE INDIVIDUAL TO FRESH AIR.

=====
===== Fire Fighting Measures =====

Flash Point Method:TOC
Flash Point:>87.8C, 190.F
190-200F
Lower Limits:6.7
Upper Limits:36
Extinguishing Media:USE CO2 OR DRY CHMEICALS ON SMALL FIRE. FOAM OR
WATER FOG ON LARGE FIRE.
Fire Fighting Procedures:SELF-CONTAINED BREATHING APPARATUS AND
PROTECTIVE CLOTHING SHOULD BE WORN IN A FIRE.
Unusual Fire/Explosion Hazard:MATERIAL CAN POLYMERIZE REAPIDLY AND
RUPTURE CONTAINERS.

=====
===== Accidental Release Measures =====

Spill Release Procedures:WEAR PROTECTIVE CLOTHING AND COLLECT FOR
DISPOSAL. DO NOT DISCHARGE TO WATERWAYS. DO NOT USE ON PLUMPING
USING DRINKING WATER.

=====
Handling and Storage

Handling and Storage Precautions:KEEP AWAY FROM HEAT AND OPEN FLAME.
STORE AT 72 DEG OR LESS TO MAINTAIN USEFULNESS OF PRODUCT.
Other Precautions:AVOID CONTACT WITH EYES OR SKIN. WEAR GLOVES. WASH
IF CONTACT IS MADE WITH SKIN. USE WITH ADEQUATE VENTILATION. DO
NOT CONTAMINATE GROUND WATER.

=====
Exposure Controls/Personal Protection

Respiratory Protection:IN HIGH CONCENTRATION USE SELF-CONTAINED
BREATHING APPARATUS.
Ventilation:LOCAL EXHAUST: MAY BE NECESSARY FOR PROPER CONTROL OF
PHENOL AND FORMALDEHYDE VAPORS BELOW THEIR THRESHOLD LIMIT.
Protective Gloves:RUBBER OR PLASTIC GLOVES.
Eye Protection:MONOGOGGLES.
Other Protective Equipment:CHEMICAL APRON, EYE BATH, SAFETY SHOWER.
Supplemental Safety and Health

=====
Physical/Chemical Properties

Boiling Pt:=760.C, 1400.F
B.P. Text:760MMHG=C
Vapor Pres:25 C 52
Vapor Density:1.1
Spec Gravity:20/20C 1/135-1.165
Evaporation Rate & Reference:(BUTYL ACETATE = 1)
Solubility in Water:100%
Appearance and Odor:RED/BLACK - SLIGHT METHANOL ORDOR

=====
Stability and Reactivity Data

Stability Indicator/Materials to Avoid:YES
ALKALI METALS ,CONC. NITRIC AND SULFURIC ACIDS, ACYL HALIDES,
ALDEHYDES AND HALOGENS.
Stability Condition to Avoid:KEEP AWAY FROM EXTREME HEAT DURING STORAGE
AND SHIPPING.
Hazardous Decomposition Products:CO, CO2, AND TOXIC CRESOL VAPORS.

=====
Disposal Considerations

Waste Disposal Methods:RECOVER FREE LIQUID. ABSORB RESIDUE AND DISPOSE
OF ACCORDING TO LOCAL, STATE/PROVINCIAL, AND FEDERAL REQUIREMENTS.

=====
Other Information

Disclaimer (provided with this information by the compiling agencies):
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of Defense. The United States of America in no manner whatsoever,
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assume responsibility for the suitability of this information to their
particular situation.

Material Safety Data Sheet

MULE-HIDE WATER CUT-OFF MASTIC

Date of Preparation: 1/02/07

Revision: 018

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: MULE-HIDE WATER CUT-OFF MASTIC

Chemical Formula: Mixture

General Use: Elastomeric Sealer

Manufacturer: Mule-Hide Products Co., Inc., P.O. Box 1057, Beloit, WI 53512 Phone: 800-786-1492

24 hour Emergency Phone Number: CHEMTREC (USA) 800-424-9300

Section 2 - Composition / Information on Ingredients

| Ingredient Name | CAS Number | % wt or % vol |
|--------------------------------|------------|------------------|
| Aliphatic Petroleum Distillate | 64742-89-8 | 10-20 |
| Amorphous Silica | 7631-86-9 | 2-4 |
| Isobutylene-Isoprene Copolymer | 9010-85-9 | |
| Polybutene Homopolymer | 9003-29-6 | |
| Hydrous Clay | 12174-11-7 | |
| Paraffinic Oil | 64742-01-4 | |
| Calcium Carbonate | 1317-65-3 | |

Hazardous Ingredients:

| Ingredient | OSHA PEL | | ACGIH TLV | | NIOSH REL | | NIOSH IDLH |
|--------------------------------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | TWA | STEL | TWA | STEL | TWA | STEL | |
| Aliphatic Petroleum Distillate | 300 ppm | none estab. |
| Amorphous Silica | 6.0mg/m ³ (total dust) | none estab. |

Section 3 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

| | |
|-------------|---|
| HMIS | |
| H | 1 |
| F | 4 |
| R | 0 |
| PPE† | |
| †Sec. 8 | |

Potential Health Effects

Primary Entry Routes: Skin contact, skin absorption, eye contact, inhalation, ingestion.

Target Organs:

Acute Effects

Inhalation: nose and throat irritation on short-term exposure to liquid or vapor.

Eye: irritation on short-term exposure to liquid or vapor.

Skin: irritation on short-term exposure to liquid or vapor

Ingestion: irritation of gastrointestinal tract

Carcinogenicity: IARC, NTP, and OSHA do not list this product as a carcinogen.

Medical Conditions Aggravated by Long-Term Exposure: Pre-existing eye, skin, and pulmonary disorders may be aggravated by exposure to this product. Respiratory symptoms associated with pre-existing lung disorders and pre-existing heart disorders may be aggravated by exposure to this material.

Chronic Effects: Overexposure may result in headache, dizziness, fatigue, nausea, convulsions, and loss of consciousness. Anorexia and nervousness may persist for several months following acute overexposure. Moderate irritation of skin, eyes, and mucous membranes of upper respiratory tract on prolonged, repeated contact. Dermatitis and defatting of the skin. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Section 4 - First Aid Measures

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 15 minutes. Get medical attention.

Skin Contact: Immediately flush skin with running water and remove contaminated clothing. Wash exposed area with soap and water. Get medical attention.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Special Precautions/Procedures: Whenever possible, remove the worker from the source of contamination.

Section 5 - Fire-Fighting Measures

Flash Point: 40 °F (4 °C)

Flash Point Method: TCC

Autoignition Temperature: 480.4 °F (249 °C)

LEL: 0.9% v/v

UEL: 7% v/v



Flammability Classification: Division 2. Ignition can occur when this product is exposed to heat, sparks, or flame.

Extinguishing Media: In case of fire, use dry chemical, carbon dioxide, or foam. Water may not be effective as an extinguishing agent. Water fog or spray may be used to provide a smothering effect on fire and to cool fire-exposed container and surrounding combustibles. Do not use a solid stream of water because it can scatter and spread the fire.

Unusual Fire or Explosion Hazards: Flammable. Store and use away from all sources of heat, flame, or sparks. DO NOT smoke while applying. Vapors are heavier than air and may travel along ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electrical motors, static discharge, or other ignition sources at location distant from material handling point and flash back. All containers should be grounded when material is transferred.

Hazardous Combustion Products: Toxic gases or vapors, such as carbon monoxide, carbon dioxide, or aldehydes may be released in a fire.

Fire-Fighting Instructions: This product contains solvents that are dangerous fire and explosion hazards when exposed to heat or flame. Fire fighters should wear self-contained breathing apparatus and full protective clothing with full-face pieces operated in the positive pressure demand mode.

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 6 - Accidental Release Measures

Spill /Leak Procedures: Remove all sources of ignition. Avoid breathing vapors. Use self-contained breathing apparatus in enclosed area. Ventilate area. Contain and remove with inert absorbent materials and non-sparking tools.

Large Spills

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Clean-up spill as soon as possible. Collect any excess material with absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal. Comply with all laws and regulations.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - Handling and Storage

Handling Precautions: Use away from all sources of heat, flame, or sparks. Do not smoke while using. Handling equipment must be grounded to prevent sparking. Handle with non-sparking tools. Wash with soap and water before eating or drinking. Launder contaminated clothing. KEEP OUT OF REACH OF CHILDREN.

Storage Requirements: Keep containers cool, dry, and store away from all sources of heat, flame, and sparks. Keep containers tightly closed and store with adequate ventilation. Do not pressurize, cut, weld, or grind the containers or empty containers which may contain residual product and solvent vapors that may ignite explosively.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Do not use in enclosed areas without proper explosion-proof ventilation. General and local exhaust ventilation must be sufficient to control vapor concentrations and keep the vapor concentration below 300 ppm.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: A NIOSH approved respirator must be used if vapor concentration is 300 ppm or above.

Protective Clothing/Equipment: Hycron or equivalent solvent permeation resistant gloves recommended. Glasses or goggles recommended. Wear industrial boots to protect feet from contact with sealant. Impervious clothing is recommended to protect skin from contact with sealant. Protective skin creams or emollients useful.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

| | |
|--|--|
| Physical State: Liquid | Water Solubility: 0.5 |
| Appearance and Odor: Gray viscous liquid with mild solvent odor | Other Solubilities: |
| Odor Threshold(ppm): Not available | Boiling Point(°C): 115-140 |
| Vapor Pressure: 45 mm Hg at 25 °C | Freezing/Melting Point(°C): -18 |
| Vapor Density (Air=1): 3.9 | % Volatile: 10-20 |
| Density: 9.98 – 10.82 lbs./gal. (calculated) | Evaporation Rate: 2.0 |
| Specific Gravity (H₂O=1, at 4 °C): 1.20-1.30 | VOC: 250 gms. / l. |
| pH: N/A | |

Section 10 - Stability and Reactivity

Stability: Stable.
Polymerization: Will not occur.
Chemical Incompatibilities: Strong oxidizing agents, acids, bases.
Conditions to Avoid: Heat, sparks, and flames; ignition sources.
Hazardous Decomposition Products: Toxic gases or vapors such as carbon monoxide, carbon dioxide, or aldehydes may be released in a fire.

Section 11- Toxicological Information**Toxicity Data:***

Acute Inhalation Effects: Product toxicity has not been determined.
Acute Oral Effects: Product toxicity has not been determined.
The following is component data:
Aliphatic Petroleum Distillates - Rat, oral, LD₅₀: >5000mg/kg
Amorphous Silica - Rat, oral, LD₅₀: 3160mg/kg
Carcinogenicity: Not listed in IARC or NTP.
Mutagenicity: No evidence
Teratogenicity: No evidence

Section 12 - Ecological Information

This product has not been tested. No data available.

Section 13 - Disposal Considerations

Disposal: Dispose of in accordance with all local, state, and federal regulations.

Section 14 - Transport Information**DOT Transportation Data (49 CFR 172.101):**

| | | |
|---|---------------------------------|---|
| Shipping Name: Adhesives | Packaging Authorizations | Quantity Limitations |
| Shipping Symbols: Flammable | a) Exceptions: 173.150 | a) Passenger, Aircraft, or Railcar: 5 L |
| Hazard Class: 3 | b) Non-bulk Packaging: 173.173 | b) Cargo Aircraft Only: 60 L |
| ID No.: UN1133 | c) Bulk Packaging: 173.242 | |
| Packing Group: II | | Vessel Stowage Requirements |
| Label: flammable liquid label required for 5 gallon pails only | | a) Vessel Stowage: B |
| Special Provisions (172.102): 149,B52,IB2 | | b) Other: N/A |

Section 15 - Regulatory Information

EPA Regulations:
RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.31): Not classified
CERCLA Hazardous Substance (40 CFR 302.4) listed/unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112: Not listed
SARA 311/312 Codes:
SARA Toxic Chemical (40 CFR 372.65): Not listed
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed

Mule-Hide Water Cut-Off Mastic

1/02/07

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

State Regulations:

Florida Toxic Substance: Listed as a toxic substance (Amorphous silica) by the state of Florida.

Massachusetts Hazardous Substance Codes: Amorphous Silica 7631-86-9 2,4,5,F5
Calcium Carbonate 1317-65-3 4

Minnesota Hazardous Substance: Amorphous Silica Codes: ANOR Carcinogen: Yes
Calcium Carbonate Codes: A Carcinogen: No

Pennsylvania Hazardous Substance Code: Amorphous Silica 7631-86-9 Code: None
Calcium Carbonate 1317-65-3 Code: None

Canadian WHMIS Classification: Class: B
Division 2

Section 16 - Other Information

Prepared By: Mule-Hide Products Co., Inc. Customer Service Department

Revision Notes: Converted to 16 Part Format

Disclaimer: The information contained in this document is based upon data that was supplied to Mule-Hide by other companies and organizations. No warranty of merchantability or fitness for a particular purpose is expressed or implied regarding the accuracy or completeness of the data and/or information in this material safety data sheet.

ONE-COMPONENT POLYURETHANE FOAM SEALANT/ADHESIVE

(Includes Straw Foam, Gun Foam and Construction Adhesive)

A16174

Issue Date: 03/05 Last Rev: 03/05-0

Prepared By: T. Eberling

M A T E R I A L S A F E T Y D A T A S H E E T

1. IDENTIFICATION

Chemical Product

One-Component Polyurethane Foam Sealant/Adhesive

Manufacturer

FOMO PRODUCTS, INC.

P. O. Box 1078

Norton, Ohio 44203

Emergency Overview

Product Information: 1-800-321-5585. In Ohio and outside the United States call (330) 753-4585

Transportation Emergency: CHEMTREC 1-800-424-9300. One-Component Polyurethane Foam Sealant/Adhesive is registered by the manufacturer, FOMO PRODUCTS, INC.

International Transportation Emergency: CHEMTREC (703) 527-3887

Product is a liquid urethane prepolymer mixture that is packaged under pressure (Non-Flammable Compressed Gas). Containers should not be heated above 120°F (49°C) to avoid excessive pressure build-up.

2. COMPOSITION

| <u>Chemical Name (common names)</u> | <u>CAS Number</u> | <u>Percentage</u> | <u>LD₅₀</u> | <u>LC₅₀</u> |
|--|----------------------------|-------------------|------------------------|------------------------|
| Fluorocarbon (Non-Flammable Compressed Gas, HCFC) | 75-45-6 | 10 to 30 percent | N/A | N/A |
| 4,4' - Diphenylmethane Diisocyanate (MDI) | 101-68-8 | 5 to 10 percent | NA | NA |
| Higher Oligomers of MDI (Polymeric MDI) | 9016-87-9 | 5 to 10 percent | NA | NA |
| Urethane Pre-polymer Blend (Non-Hazardous Proprietary Blend) | Not Available This Section | 60 to 100 percent | NA | NA |

(NOTE: See Section 8 of this MSDS for Exposure Guidelines)

3. HAZARDS IDENTIFICATION

Physical Hazards

Since the containers are pressurized, storage temperature should not exceed 120°F (49°C) in order to avoid excessive pressure build-up and possible container rupture. Also, the product has strong adhesive-like characteristics and will adhere aggressively to skin and other surfaces. If accidental contact occurs, follow the appropriate first-aid procedure described in Section 4 of this MSDS.

Potential Health Effects

The primary adverse health effects of this product are related to the Polymeric Isocyanate (MDI) component, and, to a lesser degree, the Fluorocarbon (Non-Flammable Gas) component. Therefore, adequate ventilation should be provided to avoid exceeding the exposure limits of these components (See Section 8). The likelihood of exceeding these limits are low due to the low concentration of vapor produced during normal use. However, if used indoors, mechanical ventilation or exhaust should be provided during use and until product is cured.

Entry Route: Effects of Overexposure

- Inhalation:** May irritate mucous membranes with tightness in chest, coughing, or allergic asthma-like sensitivity. Extensive overexposure can lead to respiratory symptoms like bronchitis and pulmonary edema. These effects are usually reversible. Overexposure to Fluorocarbon may cause lightheadedness, headaches, or lethargy. Persons with cardiac arrhythmia may be at increased risk in severe exposure.
- Eyes:** May be irritating to eyes. Foam contact can cause physical damage due to adhesive character.
- Skin:** May cause localized irritation, reddening or swelling. Prolonged or repeated exposure may lead to sensitization and/or contact dermatitis.
- Ingestion:** May cause irritation of mucous membranes in the mouth and digestive tract.

4. FIRST AID

- Inhalation:** If breathing difficulty is experienced, move to area free of exposure. Provide fresh air. If necessary, provide oxygen or artificial respiration by trained personnel and obtain medical attention.
- Eye Contact:** Flush with clean water for at least 15 minutes and obtain medical attention.
- Skin Contact:** Use a rag to remove excess foam from skin and remove contaminated clothing. Use of a solvent, such as acetone (nail polish remover) or mineral spirits, may help in removing uncured foam residue from clothing or other surfaces (avoid eye contact). Cured foam may be physically removed by persistent washing with soap and water. If irritation develops, use mild skin cream. If irritation persists, obtain medical attention.
- Ingestion:** Drink 1 to 3 glasses of water and seek immediate medical attention. Never give anything orally to an unconscious person.

5. FIRE FIGHTING MEASURES

High temperatures will raise the pressure in the containers, which may lead to rupturing. Extinguishing media include: dry chemical, carbon dioxide, Halon 1211, chemical foam, or water spray if used in large quantities (water contamination will produce carbon dioxide). Wear self-contained breathing apparatus to protect against toxic decomposition by-products, including CO, CO₂, NO, and traces of HCN. Cured foam is organic and, therefore, will burn in the presence of sufficient heat, oxygen and an ignition source. Main hazards associated with burning foam are similar to burning of other organic materials (wood, paper, cotton, etc.) and precautions against exposure should be taken accordingly. Avoid welding or other "hot work" in the vicinity of exposed cured foam.

6. ACCIDENTAL RELEASE MEASURES/DISPOSAL CONSIDERATIONS

Read all product instructions before using. Personal protective equipment should include impervious gloves, protective eye wear, and suitable work clothes. Uncured product is very sticky, so carefully remove the bulk of the foam by scraping it up and then immediately remove residue with a rag and solvent such as polyurethane cleaner, mineral spirits, acetone (nail polish remover), paint thinner, etc. Once the product has cured, it can only be removed physically by scraping, buffing, etc. Dispose as plastic waste (foam plastic) in accordance with all applicable guidelines and regulations.

Before disposing of containers, relieve container of any remaining foam and pressure. Allow product to fully cure before disposing. Never discard in a liquid state.

7. HANDLING AND STORAGE

Store in a cool, dry place. Ideal storage temperature is 60°F to 80°F (15.5°C to 26.6°C). Storage above 90°F (32.2°C) will shorten the shelf life. Storage below 55°F (12.7°C) may affect foam quality if chemicals are not warmed before using. Protect containers from physical abuse. Protect unused product from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read all product instructions before using. Personal protective equipment should include (impervious gloves, protective eye wear and suitable work clothes). Adequate ventilation should also be employed so that vapor levels do not exceed recommended guidelines. If vapor levels are expected to exceed these guidelines, use NIOSH approved, positive pressure, supplied air respirator or a negative pressure half mask with organic vapor cartridges and dust/mist pre-filters. Exercise good personal hygiene, wash thoroughly after each use.

| <u>Exposure Guidelines</u> | <u>OSHA</u> | <u>ACGIH</u> |
|---|--|--|
| 4,4' - Diphenylmethane Diisocyanate (MDI) | .020 ppm ceiling .200 mg/m ³ ceiling | .005 ppm TWA .051 mg/m ³ TWA |
| Higher Oligomers of MDI | None Established | None Established |
| Fluorocarbon (Non-Flammable Compressed Gas, HCFC) | None Established | None Established |

(None of the components in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen).

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---------------------|--|
| Physical Appearance | : Viscous liquid which foams upon release from container as an off-white to yellowish froth. (Note; Appearance may differ with the introduction of a dye or colorant). |
| Odor | : Slight fluorocarbon odor during curing stage |
| Specific Gravity | : Approximately 1.2 (H ₂ O = 1) |
| Boiling Point | : Fluorocarbon (Non-Flammable Compressed Gas, HCFC) boils at 0°F (-17.7°C). Other components boil at temperatures greater than 200°F (93.3°C). |
| Flash Point | : Product flash point has been tested at approximately 800°F (426.6°C). |
| Vapor Pressure | : Contents under pressure have vapor pressure greater than 50 psig / 345 kPa. After release from container, vapor pressure is very low (not determined). |
| Solubility in Water | : Insoluble, reacts slowly with water during cure; liberating traces of CO ₂ . |
| Explosion Data | : Contents are not known to be sensitive to mechanical impact or static discharge. |

10. STABILITY AND REACTIVITY

This product is considered stable under normal and anticipated storage and handling conditions. Do not store above 120°F (49°C). For longest shelf life, avoid storage above 80°F (26.6°C). Avoid alcohols, strong bases or amines and metal compounds (such as small particle metal catalysts).

11. TRANSPORTATION

Shipping Information**Containers 1000 cu. cm. (1 liter) or Less**

| | |
|-------------------|--|
| <i>Ground</i> | Consumer Commodity ORM-D (On Shipper Carton) Consumer Commodity, Polyurethane Foam Sealant (On Shipping Document) |
| <i>Air</i> | UN 1950 Aerosols, Non-Flammable 2.2 (Non-Flammable Gas Label) |
| <i>Water</i> | UN 1950 AEROSOLS (Limited Quantity) Class 2 No Hazard Labels Required)Boxes or Cartons should be marked (AEROSOLS UN 1950) only. IMDG Volume #2, Page 93 |
| <i>Exceptions</i> | N/A |
| <i>Note</i> | Emergency Response Guide Numbers – Consumer Commodity #171, for Aerosols and Compressed Gas #126 |

12. REGULATORY

Toxic Substances Control Act (TSCA)/Domestic Substances List (DSL):

All ingredients are listed on the TSCA inventory, as well as the Canadian Domestic Substances List.

SARA Title III:

Contains Diphenylmethane Diisocyanate (CAS #101-68-8) and Fluorocarbon (HCFC) containing Chlorodifluoromethane (CAS#75-45-6), which are subject to the reporting requirements of SARA Title III.

Applicability must be determined by the end user.

Proposition 65:

Based on information currently available, this product is not known to contain detectable amounts of any chemicals currently listed under California Proposition 65.

V.O.C. Content:

Based on the current EPA definition of volatile organic compound, this product does not have any V.O.C. content.

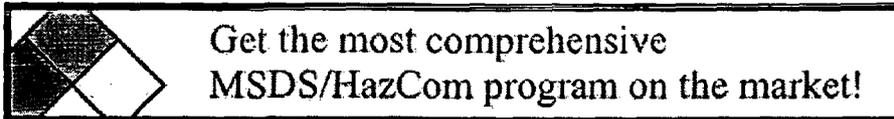
13. OTHER

NFPA: **Fire 1; Health 2; Reactivity 1**
HMIS: **Flammability 1; Health 2; Reactivity 1**

The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. The manufacturer makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving it will make their own determination as to its suitability for their purposes prior to use. In no event will the manufacturer be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. No representations or warranties, either expressed or implied, of merchantability or fitness for a particular use are made hereunder with respect to this information or the product to which information refers.

Information contained herein is deemed to be reliable, conservative and accurate. FOMO Products, Inc. reserves the right to change the design, specifications or any other features at any time and without notice, while otherwise maintaining regulatory compliance.

LAST REVISION : **03/05-0**
APPROVED BY : **T. EBERLING**
16174



Material Safety Data Sheet

SECTION I - Material Identity
 SECTION II - Manufacturer's Information
 SECTION III - Physical/Chemical Characteristics
 SECTION IV - Fire and Explosion Hazard Data
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 SECTION VIII - Control Measures
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 SECTION X - Transportation Data
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 SECTION XII - Ingredients/Identity Information

SECTION I - Material Identity

| | |
|------------------------|--|
| Item Name | |
| Part Number/Trade Name | DURABOND ADHESIVE (SEE MSDS 148367) |
| National Stock Number | 8040PD3001 |
| CAGE Code | <u>90300</u> |
| Part Number Indicator | B |
| MSDS Number | 10201 |
| HAZ Code | B |

SECTION II - Manufacturer's Information

| | |
|-------------------|--------------------------------|
| Manufacturer Name | DAP INC |
| Emergency Phone | 800-543-3840 INFO 513-667-4461 |

MSDS Preparer's Information

| | |
|----------------------------|------|
| Date MSDS Prepared/Revised | NONE |
| Active Indicator | N |

Alternate Vendors

SECTION III - Physical/Chemical Characteristics

| | |
|-------------------------|-------|
| Specification Number | N/R |
| Boiling Point | 212 F |
| Container Pressure Code | 4 |
| Temperature Code | 8 |
| Product State Code | U |

SECTION IV - Fire and Explosion Hazard Data

| | |
|--------------------|-----|
| Flash Point Method | UNK |
|--------------------|-----|

SECTION V - Reactivity Data

| | |
|----------------------------------|-------------------------------|
| Stability | YES |
| Stability Conditions to Avoid | EXCESSIVE HEAT AND FREEZING |
| Materials to Avoid | STRONG OXIDIZERS AND CAUSTICS |
| Hazardous Decomposition Products | NORMAL COMBUSTION PRODUCTS |
| LD50 - LD50 Mixture | N/R |

SECTION VI - Health Hazard Data

| | |
|--------------------------------------|---|
| Route of Entry: Skin | YES |
| Route of Entry: Inhalation | YES |
| Health Hazards - Acute and Chronic | MAY IRRITATE EYES, SKIN, NOSE & RESP TRACT. HARMFUL IF INHALED. HARMFUL OR FATAL IF SWALLOWED. IF INGESTED CAUSES VOMITING, DIARRHEA AND DEPRESSED RESP. INHALATION MAY EFFECT THE BRAIN OR NERV SYS CAUSING DIZZINESS, HEADACHE, OR NAUSEA |
| Carcinogenity: NTP | YES |
| Carcinogenity: IARC | N/R |
| Carcinogenity: OSHA | N/R |
| Symptoms of Overexposure | REPORTS HAVE ASSOCIATED PROLONGED AND REPEATED EXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYS DAMAGE. INGESTION OF ETHYLENE GLYCOL IN EXCESS MAY LEAD TO RESP AND CARDIAC FAILURE, KIDNEY AND LIVER DAMAGE |
| Medical Cond. Aggravated by Exposure | NONE KNOWN |

SECTION VII - Precautions for Safe Handling and Use

SECTION VIII - Control Measures

| | |
|---------------------------------|---|
| Respiratory Protection | IF TLV IS EXCEEDED, USE NIOSH/OSHA RESPIRATOR |
| Ventilation | SUFFICIENT MECHANICAL VENT (LOCAL OR GENERAL EXHAUST) |
| Protective Gloves | SOLVENT IMPERVIOUS GLOVES |
| Eye Protection | SAFETY W/SIDE SHIELDS OR GOGGLES |
| Supplemental Health/Safety Data | 1ST AID-EYE:FLUSH W/LARGE AMOUNTS OF WATER FOR 15 MINS. SEEK MD.SKIN:WASH W/SOAP & WATER. INHAL:REMOVE TO FRESH AIR. SEEK MD. INGEST:DO NOT INDUCE VOMITING. SEEK MD OR REGIONAL POISON CONTROL CENTER IMMEDIATELY |
| Disposal Code | 0 |

SECTION IX - Label Data

| | |
|---------------------|---------|
| Protect Eye | YES |
| Protect Skin | YES |
| Protect Respiratory | YES |
| Chronic Indicator | YES |
| Contact Code | SLIGHT |
| Fire Code | UNKNOWN |
| Health Code | UNKNOWN |
| React Code | UNKNOWN |

SECTION X - Transportation Data

| | |
|--------------------|----|
| Container Quantity | 1 |
| Unit of Measure | GL |

SECTION XI - Site Specific/Reporting Information

SECTION XII - Ingredients/Identity Information

MSDS for: LN-606

Revised: 5-Feb-2008

SECTION 1:

PRODUCT IDENTIFIER: LN-606 HIGH TACK PANEL ADHESIVE
DATE OF PREPARATION: FEBRUARY 5, 2008
PRODUCT USE: ADHESIVE

MANUFACTURED BY: ICI PAINTS
15885 WEST SPRAGUE ROAD
STRONGSVILLE, OHIO 44136, U.S.A.

ICI PAINTS (CANADA)
8200 KEELE STREET
CONCORD, ONTARIO L4K 2A5, CANADA

EMERGENCY AND MSDS TELEPHONE NUMBER: 1-800-545-2643

MSDS PREPARED BY: PRODUCT SAFETY AND COMPLIANCE DEPARTMENT
ICI PAINTS NORTH AMERICA

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT | WT. % |
|--|--------------|
| CHEMICAL NAME: STYRENE BUTADIENE COPOLYMER COMMON NAME: STYRENE BUTADIENE COPOLYMER CAS NUMBER: CONFIDENTIAL | 10-20 |
| CHEMICAL NAME: LIMESTONE COMMON NAME: LIMESTONE CAS NUMBER: 1317-65-3 | 10-20 |
| CHEMICAL NAME: KAOLIN COMMON NAME: CLAY CAS NUMBER: 1332-58-7 | 20-30 |
| CHEMICAL NAME: TITANIUM OXIDE COMMON NAME: TITANIUM DIOXIDE CAS NUMBER: 13463-67-7 | 0.1-1.0 |
| CHEMICAL NAME: CRISTOBALITE COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE CAS NUMBER: 14464-46-1 | 0.1-1.0 |
| CHEMICAL NAME: QUARTZ COMMON NAME: QUARTZ CAS NUMBER: 14808-60-7 | 1-5 |
| CHEMICAL NAME: HEAVY NAPHTHENIC DISTILLATE, SEVERELY HYDROTREATED* COMMON NAME: PÉTROLEUM HYDROCARBON CAS NUMBER: 64742-52-5* | 1-5 |

| | | |
|----------------|---|-------|
| CHEMICAL NAME: | SOLVENT NAPHTHA (PETROLEUM), MEDIUM ALIPHATIC | 1-5 |
| COMMON NAME: | MEDIUM ALIPHATIC SOLVENT NAPHTHA | |
| CAS NUMBER: | 64742-88-7 | |
| | | |
| CHEMICAL NAME: | ALKENES, ETHYLENE-MANUF.-BY-PRODUCT | 5-10 |
| | PIPERYLENE-CUT, POLYMERS WITH STEAM-CRACKED | |
| | PETROLEUM DISTILLATES | |
| COMMON NAME: | RESIN | |
| CAS NUMBER: | 68131-89-5 | |
| | | |
| CHEMICAL NAME: | WATER | 20-30 |
| COMMON NAME: | WATER | |
| CAS NUMBER: | 7732-18-5 | |

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO LOSS OF APPETITE, MUCOUS MEMBRANE IRRITATION, DROWSINESS, DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, NAUSEA, SORE THROAT, CENTRAL NERVOUS SYSTEM DEPRESSION, INTOXICATION, DIFFICULTY OF BREATHING, SEVERE LUNG IRRITATION OR DAMAGE, CONVULSIONS, PNEUMOCONIOSIS, LOSS OF CONSCIOUSNESS, ASPHYXIATION.

SKIN CONTACT: IRRITATION OF SKIN. PROLONGED OR REPEATED CONTACT CAN CAUSE DERMATITIS, DEFATTING. SKIN CONTACT MAY RESULT IN DERMAL ABSORPTION OF COMPONENT(S) OF THIS PRODUCT WHICH MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.

EYE CONTACT: IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE CONJUNCTIVITIS, TEARING OF EYES, REDNESS OF EYES.

INGESTION: INGESTION MAY CAUSE LUNG INFLAMMATION AND DAMAGE DUE TO ASPIRATION OF MATERIAL INTO LUNGS, MUCOUS MEMBRANE IRRITATION, NAUSEA, VOMITING, DIARRHEA, GASTRO-INTESTINAL DISTURBANCES, ABDOMINAL PAIN, COUGHING, CENTRAL NERVOUS SYSTEM DEPRESSION, DIFFICULTY OF BREATHING, PULMONARY EDEMA, CYANOSIS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

EYE, SKIN, RESPIRATORY DISORDERS, LUNG DISORDERS, RESPIRATORY DISORDERS

SECTION 4: FIRST-AID MEASURES

- INHALATION:** REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. GET EMERGENCY MEDICAL ATTENTION. HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.
- SKIN CONTACT:** WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE RE-USE.
- EYE CONTACT:** FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT.
- INGESTION:** IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (SETA): ABOVE 200F/93C **LOWER EXPLOSIVE LIMIT:** NOT AVAILABLE
UPPER EXPLOSIVE LIMIT: 7.0 %

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL OR FOAM, WATER FOG, CARBON DIOXIDE

UNUSUAL FIRE AND EXPLOSION HAZARDS

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL LONG DISTANCES TO A SOURCE OF IGNITION AND FLASH BACK. CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE. MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF SULFUR, ALDEHYDES, TOXIC GASES, STYRENE, OXIDES OF CALCIUM, SMOKE

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS. VENTILATE AREA. EVACUATE ALL UNNECESSARY PERSONNEL. PLACE COLLECTED MATERIAL IN PROPER CONTAINER. COMPLETE PERSONAL PROTECTIVE EQUIPMENT MUST BE USED DURING CLEANUP.

LARGE SPILLS: SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN SPILL. PUMP TO STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS RESIDUE. KEEP SALVAGEABLE MATERIAL AND RINSE WATER OUT OF SEWERS AND WATER COURSES.

SMALL SPILLS: USE ABSORBENT TO PICK UP RESIDUE AND DISPOSE OF PROPERLY.

SECTION 7: HANDLING AND STORAGE

STORE BELOW 80F. STORE BELOW 100F (38C). KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. KEEP FROM FREEZING. STORE ABOVE 20F (-7C).

OTHER PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE. AVOID CONDITIONS WHICH RESULT IN FORMATION OF INHALABLE PARTICLES SUCH AS SPRAYING OR ABRADING (SANDING) PAINTED SURFACES. IF SUCH CONDITIONS CANNOT BE AVOIDED, USE APPROPRIATE RESPIRATORY PROTECTION AS DIRECTED UNDER EXPOSURE CONTROLS/PERSONAL PROTECTION. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS RESIDUES. GROUND EQUIPMENT WHEN TRANSFERRING TO PREVENT ACCUMULATION OF STATIC CHARGE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|--------------|----------------------------------|------------|------------|
| COMMON NAME: | LIMESTONE | | |
| CAS NUMBER: | 1317-65-3 | | |
| ACGIH(TWA): | 10 MG/M3 | OSHA(TWA): | 5 MG/M3 |
| COMMON NAME: | CLAY | | |
| CAS NUMBER: | 1332-58-7 | | |
| ACGIH(TWA): | 2 MG/M3 | OSHA(TWA): | 5 MG/M3 |
| COMMON NAME: | TITANIUM DIOXIDE | | |
| CAS NUMBER: | 13463-67-7 | | |
| ACGIH(TWA): | 10 MG/M3 | OSHA(TWA): | 10 MG/M3 |
| COMMON NAME: | CRYSTALLINE SILICA, CRISTOBALITE | | |
| CAS NUMBER: | 14464-46-1 | | |
| ACGIH(TWA): | 0.025 MG/M3 | OSHA(TWA): | 0.05 MG/M3 |
| COMMON NAME: | QUARTZ | | |
| CAS NUMBER: | 14808-60-7 | | |
| ACGIH(TWA): | 0.025 MG/M3 | OSHA(TWA): | 0.1 MG/M3 |
| COMMON NAME: | PETROLEUM HYDROCARBON | | |
| CAS NUMBER: | 64742-52-5* | | |
| ACGIH(TWA): | 5 MG/M3 | OSHA(TWA): | 5 MG/M3 |
| ACGIH(STEL): | 10 MG/M3 | | |

COMMON NAME: MEDIUM ALIPHATIC SOLVENT NAPHTHA
CAS NUMBER: 64742-88-7
OSHA(TWA): 500 * PPM
* AS PETROLEUM DISTILLATES

RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE EXPOSURE STANDARDS WHEN USING THIS MATERIAL. WHEN RESPIRATORY PROTECTION IS DETERMINED TO BE NECESSARY, USE A NIOSH/MSHA (CANADIAN Z94.4) APPROVED ELASTOMERIC SEALING-SURFACE FACEPIECE RESPIRATOR OUTFITTED WITH ORGANIC VAPOR CARTRIDGES AND PAINT SPRAY (DUST/MIST) PREFILTERS. DETERMINE THE PROPER LEVEL OF PROTECTION BY CONDUCTING APPROPRIATE AIR MONITORING. CONSULT 29CFR1910.134 FOR SELECTION OF RESPIRATORS (CANADIAN Z94.4).

VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS. USE EXPLOSION-PROOF EQUIPMENT.

PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES,
IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING, APRON, BOOTS

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------------|-----------------|----------------------|-----------------|
| VAPOR PRESSURE: | NOT AVAILABLE | SPECIFIC GRAVITY: | 1.384 |
| BOILING RANGE (F/C): | 212-306/100-152 | WEIGHT PER GALLON: | 11.53/13.85 IMP |
| APPEARANCE: | WHITE | %VOLATILE BY VOLUME: | 38.99 |
| PHYSICAL STATE: | PASTE | PH: | 8.00 |
| SOLUBLE IN WATER: | YES | | |

SECTION 10: STABILITY AND REACTIVITY

UNDER NORMAL CONDITIONS: STABLE (SEE SECTION 5 FIRE FIGHTING MEASURES)

MATERIALS TO AVOID: OXIDIZERS, ACIDS, BASES, AMMONIUM SALTS,
PEROXIDES, METAL SALTS, METAL COMPOUNDS,
STYRENE MONOMER

CONDITIONS TO AVOID: ELEVATED TEMPERATURES, CONTACT WITH
OXIDIZING AGENT, FREEZING, SPARKS, OPEN
FLAME, IGNITION SOURCES

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

COMMON NAME: STYRENE BUTADIENE COPOLYMER
CAS NUMBER: CONFIDENTIAL
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: LIMESTONE
CAS NUMBER: 1317-65-3
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: 6450.00 MG/KG ORL RAT

COMMON NAME: CLAY
CAS NUMBER: 1332-58-7
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: TITANIUM DIOXIDE
CAS NUMBER: 13463-67-7
CARCINOGENICITY LISTED BY: NTP YES 2B IARC YES 2B OSHA NO ACGIH NO
LD50: 24.00 GM/KG ORL RAT
LC50: 6820.00 MG/M3/4HR IHL RAT

COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE
CAS NUMBER: 14464-46-1
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: QUARTZ
CAS NUMBER: 14808-60-7
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: PETROLEUM HYDROCARBON
CAS NUMBER: 64742-52-5*
CARCINOGENICITY LISTED BY: NTP NO IARC YES 3 OSHA NO ACGIH NO

COMMON NAME: MEDIUM ALIPHATIC SOLVENT NAPHTHA
CAS NUMBER: 64742-88-7
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: 28.00 GM/KG SKN RBT
LD50: 28.00 GM/KG ORL RAT

COMMON NAME: RESIN
CAS NUMBER: 68131-89-5
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

SUPPLEMENTAL HEALTH INFORMATION

NOTICE - REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

CARCINOGENICITY: STODDARD SOLVENT IIC HAS BEEN SHOWN TO CAUSE KIDNEY TUMORS IN MALE RATS IN A NATIONAL TOXICOLOGY PROGRAM (NTP) STUDY. THESE TUMORS WERE ASSOCIATED WITH A SPECIFIC PROTEIN, ALPHA-2U-MICROGLOBULIN. BECAUSE HUMANS DO NOT PRODUCE THIS PROTEIN STODDARD SOLVENT IIC HAS NOT BEEN CLASSIFIED AS A HUMAN CARCINOGEN. CONTAINS CRYSTALLINE SILICA WHICH IS CONSIDERED A HAZARD BY INHALATION. IARC HAS CLASSIFIED CRYSTALLINE SILICA AS CARCINOGENIC TO HUMANS (GROUP 1). CRYSTALLINE SILICA IS ALSO A KNOWN CAUSE OF SILICOSIS, A NONCANCEROUS LUNG DISEASE. THE NATIONAL

TOXICOLOGY PROGRAM (NTP) HAS CLASSIFIED CRYSTALLINE SILICA AS A KNOWN HUMAN CARCINOGEN. IN A LIFETIME INHALATION STUDY, EXPOSURE TO 250 MG/M3 TITANIUM DIOXIDE RESULTED IN THE DEVELOPMENT OF LUNG TUMORS IN RATS. THESE TUMORS OCCURRED ONLY AT DUST LEVELS THAT OVERWHELMED THE ANIMALS' LUNG CLEARANCE MECHANISMS AND WERE DIFFERENT FROM COMMON HUMAN LUNG TUMORS IN BOTH TYPE AND LOCATION. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNKNOWN BUT QUESTIONABLE. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED TITANIUM DIOXIDE AS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) BASED ON INADEQUATE EVIDENCE OF CARCINOGENICITY IN HUMANS AND SUFFICIENT EVIDENCE OF CARCINOGENICITY IN EXPERIMENTAL ANIMALS.

REPRODUCTIVE EFFECTS: NO REPRODUCTIVE EFFECTS ARE ANTICIPATED
MUTAGENICITY: NO MUTAGENIC EFFECTS ARE ANTICIPATED
TERATOGENICITY: NO TERATOGENIC EFFECTS ARE ANTICIPATED

SECTION 12: ECOLOGICAL INFORMATION

NO ECOLOGICAL TESTING HAS BEEN DONE BY ICI PAINTS ON THIS PRODUCT AS A WHOLE.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS. AVOID DISCHARGE TO NATURAL WATERS.

SECTION 14: TRANSPORT INFORMATION

DOT: ADHESIVE
IMDG: NOT AVAILABLE
IATA: NOT AVAILABLE
TDG: NOT AVAILABLE

SECTION 15: REGULATORY INFORMATION

| | | | | |
|------|------|--------|-----------|--------|
| SARA | SARA | CERCLA | HAZ AIR | MARINE |
| 302 | 313 | 302.4 | POLLUTANT | POLTNT |

THIS PRODUCT CONTAINS NO SARA 302, CERCLA 302.4 OR HAZARDOUS AIR POLLUTANT CHEMICALS. IT ALSO CONTAINS NO CHEMICALS WHICH ARE SUBJECT TO THE REPORTING REQUIREMENTS UNDER SARA 313. AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM

LISTING) ON THE TSCA INVENTORY. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16: OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE AT THE TIME OF PREPARATION OF THIS DATA SHEET AND WHICH ICI PAINTS BELIEVES TO BE RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA. ICI PAINTS SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS INFORMATION, OR OF ANY PRODUCT, METHOD OR APPARATUS MENTIONED AND YOU MUST MAKE YOUR OWN DETERMINATION OF ITS SUITABILITY AND COMPLETENESS FOR YOUR OWN USE, FOR THE PROTECTION OF THE ENVIRONMENT, AND THE HEALTH AND SAFETY OF YOUR EMPLOYEES AND USERS OF THIS MATERIAL. COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29CFR1910.1200.

MSDS for: LN-901**Revised: 30-Jan-2008****SECTION 1:**

PRODUCT IDENTIFIER: LN-901 HEAVY DUTY CONSTRUCTION &
REMODELING ADHESIVE
DATE OF PREPARATION: JANUARY 30, 2008
PRODUCT USE: ADHESIVE

MANUFACTURED BY: ICI PAINTS
15885 WEST SPRAGUE ROAD
STRONGSVILLE, OHIO 44136, U.S.A.

ICI PAINTS (CANADA)
8200 KEELE STREET
CONCORD, ONTARIO L4K 2A5, CANADA

EMERGENCY AND MSDS TELEPHONE NUMBER: 1-800-545-2643

MSDS PREPARED BY: PRODUCT SAFETY AND COMPLIANCE DEPARTMENT
ICI PAINTS NORTH AMERICA

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

| INGREDIENT | WT. % |
|--|--------------|
| CHEMICAL NAME: CYCLOHEXANE COMMON NAME: CYCLOHEXANE CAS NUMBER: 110-82-7 | 1-5 |
| CHEMICAL NAME: LIMESTONE COMMON NAME: LIMESTONE CAS NUMBER: 1317-65-3 | 10-20 |
| CHEMICAL NAME: KAOLIN COMMON NAME: CLAY CAS NUMBER: 1332-58-7 | 20-30 |
| CHEMICAL NAME: TITANIUM OXIDE COMMON NAME: TITANIUM DIOXIDE CAS NUMBER: 13463-67-7 | 0.1-1.0 |
| CHEMICAL NAME: HEPTANE COMMON NAME: HEPTANE CAS NUMBER: 142-82-5 | 1-5 |
| CHEMICAL NAME: CRISTOBALITE COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE CAS NUMBER: 14464-46-1 | 0.1-1.0 |
| CHEMICAL NAME: QUARTZ COMMON NAME: QUARTZ CAS NUMBER: 14808-60-7 | 1-5 |

| | | |
|----------------|---|-------|
| CHEMICAL NAME: | BENZENE, 1,3-DIETHENYL-, POLYMER WITH 1,3-BUTADIENE AND ETHENYLBENZENE | 1-5 |
| COMMON NAME: | STYRENE-BUTADIENE POLYMER | |
| CAS NUMBER: | 26471-45-4 | |
| CHEMICAL NAME: | HEPTANE, BRANCHED, CYCLIC AND LINEAR | 5-10 |
| COMMON NAME: | HEPTANE, BRANCHED, CYCLIC AND LINEAR | |
| CAS NUMBER: | 426260-76-6 | |
| CHEMICAL NAME: | SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC | 1-5 |
| COMMON NAME: | LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM) | |
| CAS NUMBER: | 64742-89-8 | |
| CHEMICAL NAME: | ALKENES, ETHYLENE-MANUF.-BY-PRODUCT PIPERYLENE-CUT, POLYMERS WITH STEAM-CRACKED PETROLEUM DISTILLATES | 10-20 |
| COMMON NAME: | RESIN | |
| CAS NUMBER: | 68131-89-5 | |
| CHEMICAL NAME: | DISTILLATES, PETROLEUM, LIGHT DISTILLATE HYDROTREAT PROCESS, LOW-BOILING | 10-20 |
| COMMON NAME: | HYDROTREATED LIGHT DISTILLATE | |
| CAS NUMBER: | 68410-97-9 | |
| CHEMICAL NAME: | BENZENE, ETHENYL-, POLYMER WITH 1,3-BUTADIENE | 1-5 |
| COMMON NAME: | STYRENE-BUTADIENE POLYMER | |
| CAS NUMBER: | 9003-55-8 | |

SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO LOSS OF APPETITE, FATIGUE, DROWSINESS, DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, VOMITING, DIARRHEA, COUGHING, CENTRAL NERVOUS SYSTEM DEPRESSION, INTOXICATION, ANESTHETIC EFFECT OR NARCOSIS, DIFFICULTY OF BREATHING, CONVULSIONS, PNEUMOCONIOSIS, LOSS OF CONSCIOUSNESS, ASPHYXIATION.

SKIN CONTACT: IRRITATION OF SKIN. MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT CAN CAUSE DERMATITIS, DEFATTING, SEVERE SKIN IRRITATION OR BURNS.

EYE CONTACT: IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE CONJUNCTIVITIS, BLURRED VISION, TEARING OF EYES, REDNESS OF EYES, SEVERE EYE IRRITATION, SEVERE EYE IRRITATION OR BURNS.

INGESTION: INGESTION MAY CAUSE LUNG INFLAMMATION AND DAMAGE DUE TO ASPIRATION OF MATERIAL INTO LUNGS, FATIGUE,

DROWSINESS, DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, VOMITING, DIARRHEA, GASTRO-INTESTINAL DISTURBANCES, ABDOMINAL PAIN, CENTRAL NERVOUS SYSTEM DEPRESSION, RESPIRATORY PROBLEMS, INTOXICATION, DIFFICULTY OF BREATHING, PULMONARY EDEMA, CONVULSIONS, LOSS OF CONSCIOUSNESS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EYE, SKIN, RESPIRATORY DISORDERS, LUNG DISORDERS, CARDIAC ABNORMALITIES, RESPIRATORY DISORDERS, SKIN DISORDERS

SECTION 4: FIRST-AID MEASURES

- INHALATION:** REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. GET EMERGENCY MEDICAL ATTENTION. HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.
- SKIN CONTACT:** WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE RE-USE.
- EYE CONTACT:** FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT.
- INGESTION:** IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (SETA): 1 F./ -17 C. LOWER EXPLOSIVE LIMIT: 1.2 %
UPPER EXPLOSIVE LIMIT: 6.7 %

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL OR FOAM, WATER FOG, CARBON DIOXIDE

UNUSUAL FIRE AND EXPLOSION HAZARDS

CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR FIRE. VAPORS MAY IGNITE EXPLOSIVELY AT AMBIENT TEMPERATURES. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL LONG DISTANCES TO A SOURCE OF IGNITION AND FLASH BACK. VAPORS CAN FORM EXPLOSIVE MIXTURES IN AIR AT ELEVATED TEMPERATURES. CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE. MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE, ACROLEIN, METHANE, ALDEHYDES,
TOXIC GASES, OXIDES OF CALCIUM, KETONES

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS. ELIMINATE ALL SOURCES OF IGNITION. VENTILATE AREA WITH EXPLOSION-PROOF EQUIPMENT. SPILLS MAY BE COLLECTED WITH ABSORBENT MATERIALS. USE NON-SPARKING TOOLS. EVACUATE ALL UNNECESSARY PERSONNEL. PLACE COLLECTED MATERIAL IN PROPER CONTAINER. WET DOWN SPILLED MATERIAL WITH WATER. COMPLETE PERSONAL PROTECTIVE EQUIPMENT MUST BE USED DURING CLEANUP.

LARGE SPILLS: SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN SPILL. PUMP TO STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS RESIDUE. KEEP SALVAGEABLE MATERIAL AND RINSE WATER OUT OF SEWERS AND WATER COURSES.

SMALL SPILLS: USE ABSORBENT TO PICK UP RESIDUE AND DISPOSE OF PROPERLY.

SECTION 7: HANDLING AND STORAGE

STORE BELOW 80F. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME.

OTHER PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE. AVOID CONDITIONS WHICH RESULT IN FORMATION OF INHALABLE PARTICLES SUCH AS SPRAYING OR ABRADING (SANDING) PAINTED SURFACES. IF SUCH CONDITIONS CANNOT BE AVOIDED, USE APPROPRIATE RESPIRATORY PROTECTION AS DIRECTED UNDER EXPOSURE CONTROLS/PERSONAL PROTECTION. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS RESIDUES. GROUND EQUIPMENT WHEN TRANSFERRING TO PREVENT ACCUMULATION OF STATIC CHARGE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|--------------|-------------|------------|---------|
| COMMON NAME: | CYCLOHEXANE | | |
| CAS NUMBER: | 110-82-7 | | |
| ACGIH(TWA): | 100 PPM | OSHA(TWA): | 300 PPM |
| COMMON NAME: | LIMESTONE | | |
| CAS NUMBER: | 1317-65-3 | | |
| ACGIH(TWA): | 10 MG/M3 | OSHA(TWA): | 5 MG/M3 |
| COMMON NAME: | CLAY | | |
| CAS NUMBER: | 1332-58-7 | | |
| ACGIH(TWA): | 2 MG/M3 | OSHA(TWA): | 5 MG/M3 |

| | | | |
|--------------|---|------------|------------|
| COMMON NAME: | TITANIUM DIOXIDE | | |
| CAS NUMBER: | 13463-67-7 | | |
| ACGIH(TWA): | 10 MG/M3 | OSHA(TWA): | 10 MG/M3 |
| COMMON NAME: | HEPTANE | | |
| CAS NUMBER: | 142-82-5 | | |
| ACGIH(TWA): | 400 PPM | OSHA(TWA): | 500 PPM |
| ACGIH(STEL): | 500 PPM | | |
| COMMON NAME: | CRYSTALLINE SILICA, CRISTOBALITE | | |
| CAS NUMBER: | 14464-46-1 | | |
| ACGIH(TWA): | 0.025 MG/M3 | OSHA(TWA): | 0.05 MG/M3 |
| COMMON NAME: | QUARTZ | | |
| CAS NUMBER: | 14808-60-7 | | |
| ACGIH(TWA): | 0.025 MG/M3 | OSHA(TWA): | 0.1 MG/M3 |
| COMMON NAME: | LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM) | | |
| CAS NUMBER: | 64742-89-8 | | |
| OSHA(TWA): | 300 PPM | | |
| COMMON NAME: | HYDROTREATED LIGHT DISTILLATE | | |
| CAS NUMBER: | 68410-97-9 | | |
| OSHA(TWA): | 500 PPM | | |

RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE EXPOSURE STANDARDS WHEN USING THIS MATERIAL. WHEN RESPIRATORY PROTECTION IS DETERMINED TO BE NECESSARY, USE A NIOSH/MSHA (CANADIAN Z94.4) APPROVED ELASTOMERIC SEALING-SURFACE FACEPIECE RESPIRATOR OUTFITTED WITH ORGANIC VAPOR CARTRIDGES AND PAINT SPRAY (DUST/MIST) PREFILTERS. DETERMINE THE PROPER LEVEL OF PROTECTION BY CONDUCTING APPROPRIATE AIR MONITORING. CONSULT 29CFR1910.134 FOR SELECTION OF RESPIRATORS (CANADIAN Z94.4).

VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS. USE EXPLOSION-PROOF EQUIPMENT. USE NON-SPARKING EQUIPMENT.

PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES,
IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING, FACE SHIELD

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|----------------------|-----------------|----------------------|------------------|
| VAPOR PRESSURE: | NOT AVAILABLE | SPECIFIC GRAVITY: | 1.130 |
| BOILING RANGE (F/C): | 182-220/ 83-104 | WEIGHT PER GALLON: | 9.41 / 11.30 IMP |
| APPEARANCE: | TAN | %VOLATILE BY VOLUME: | 56.23 |
| PHYSICAL STATE: | PASTE | SOLUBLE IN WATER: | NO |
| PH: | N/A | | |

SECTION 10: STABILITY AND REACTIVITY

UNDER NORMAL CONDITIONS: STABLE (SEE SECTION 5 FIRE FIGHTING MEASURES)

MATERIALS TO AVOID: OXIDIZERS, ACIDS, HALOGENS, AMMONIUM SALTS, PEROXIDES, STYRENE MONOMER

CONDITIONS TO AVOID: ELEVATED TEMPERATURES, CONTACT WITH OXIDIZING AGENT, SPARKS, OPEN FLAME, IGNITION SOURCES

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

COMMON NAME: CYCLOHEXANE
CAS NUMBER: 110-82-7
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: > 180.00 GM/KG SKN RBT
LD50: 12.70 GM/KG ORL RAT
LC50: 70.00 PPM IHL MAM

COMMON NAME: LIMESTONE
CAS NUMBER: 1317-65-3
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: 6450.00 MG/KG ORL RAT

COMMON NAME: CLAY
CAS NUMBER: 1332-58-7
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: TITANIUM DIOXIDE
CAS NUMBER: 13463-67-7
CARCINOGENICITY LISTED BY: NTP YES 2B IARC YES 2B OSHA NO ACGIH NO
LD50: 24.00 GM/KG ORL RAT
LC50: 6820.00 MG/M3/4HR IHL RAT

COMMON NAME: HEPTANE
CAS NUMBER: 142-82-5
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: 222.00 MG/KG IVN MOU

COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE
CAS NUMBER: 14464-46-1
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: QUARTZ
CAS NUMBER: 14808-60-7
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: HEPTANE, BRANCHED, CYCLIC AND LINEAR
CAS NUMBER: 426260-76-6
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM)
CAS NUMBER: 64742-89-8
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO
LD50: > 3.16 GM/KG SKN RBT
LD50: > 5.00 GM/KG ORL RAT

COMMON NAME: RESIN
CAS NUMBER: 68131-89-5
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: HYDROTREATED LIGHT DISTILLATE
CAS NUMBER: 68410-97-9
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: STYRENE-BUTADIENE POLYMER
CAS NUMBER: 9003-55-8
CARCINOGENICITY LISTED BY: NTP NO IARC YES 3 OSHA NO ACGIH NO

SUPPLEMENTAL HEALTH INFORMATION

CONTAINS A CHEMICAL THAT MAY BE ABSORBED THROUGH SKIN.

NOTICE - REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL. OTHER EFFECTS OF OVEREXPOSURE MAY INCLUDE TOXICITY TO CENTRAL NERVOUS SYSTEM.

CARCINOGENICITY: CONTAINS CRYSTALLINE SILICA WHICH IS CONSIDERED A HAZARD BY INHALATION. IARC HAS CLASSIFIED CRYSTALLINE SILICA AS CARCINOGENIC TO HUMANS (GROUP 1). CRYSTALLINE SILICA IS ALSO A KNOWN CAUSE OF SILICOSIS, A NONCANCEROUS LUNG DISEASE. THE NATIONAL TOXICOLOGY PROGRAM (NTP) HAS CLASSIFIED CRYSTALLINE SILICA AS A KNOWN HUMAN CARCINOGEN. IN A LIFETIME INHALATION STUDY, EXPOSURE TO 250 MG/M3 TITANIUM DIOXIDE RESULTED IN THE DEVELOPMENT OF LUNG TUMORS IN RATS. THESE TUMORS OCCURRED ONLY AT DUST LEVELS THAT OVERWHELMED THE ANIMALS' LUNG CLEARANCE MECHANISMS AND WERE DIFFERENT FROM COMMON HUMAN LUNG TUMORS IN BOTH TYPE AND LOCATION. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNKNOWN BUT QUESTIONABLE. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED TITANIUM DIOXIDE AS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) BASED ON INADEQUATE EVIDENCE OF CARCINOGENICITY IN HUMANS AND SUFFICIENT EVIDENCE OF CARCINOGENICITY IN EXPERIMENTAL ANIMALS.

REPRODUCTIVE EFFECTS: NO REPRODUCTIVE EFFECTS ARE ANTICIPATED

MUTAGENICITY: NO MUTAGENIC EFFECTS ARE ANTICIPATED

TERATOGENICITY: NO TERATOGENIC EFFECTS ARE ANTICIPATED

SECTION 12: ECOLOGICAL INFORMATION

NO ECOLOGICAL TESTING HAS BEEN DONE BY ICI PAINTS ON THIS PRODUCT AS A WHOLE.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

SECTION 14: TRANSPORT INFORMATION

DOT: UN1133, ADHESIVES, 3, PGIII,ERG 128
IMDG: UN1133, ADHESIVES, CLASS 3, PG III, LTD QTY, (IMDG 3.4.7,2.3.2.3) ERG128
IATA: ID8000, CONSUMER COMMODITY, 9
TDG: NOT AVAILABLE

SECTION 15: REGULATORY INFORMATION

| | SARA 302 | SARA 313 | CERCLA 302.4 | HAZ AIR POLLUTANT | MARINE POLTNT |
|--------------------------|-------------|-------------|-----------------|----------------------|------------------|
| CAS NUMBER: 110-82-7 | NO | YES | YES | NO | NO |
| COMMON NAME: CYCLOHEXANE | | | | | |

AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM LISTING) ON THE TSCA INVENTORY. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16: OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE AT THE TIME OF PREPARATION OF THIS DATA SHEET AND WHICH ICI PAINTS BELIEVES TO BE RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA. ICI PAINTS SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS INFORMATION, OR OF ANY PRODUCT, METHOD OR APPARATUS MENTIONED AND YOU MUST MAKE YOUR OWN DETERMINATION OF ITS SUITABILITY AND COMPLETENESS FOR YOUR OWN USE, FOR THE PROTECTION OF THE ENVIRONMENT, AND THE HEALTH AND SAFETY OF YOUR EMPLOYEES AND USERS OF THIS MATERIAL. COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29CFR1910.1200.

